INTREPID ALLIANCE

INTERNATIONAL READINESS FOR PREVENTING INFECTIOUS VIRAL DISEASE

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Antiviral Clinical and Preclinical Development Landscape – 5th Edition

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Disclaimer

The INTREPID Alliance is a not-for-profit consortium of innovative biopharmaceutical companies and affiliates committed to accelerating antiviral research, aiming to ensure that we have a stronger pipeline and are better prepared for future pandemics.

As part of our efforts, the INTREPID Alliance maintains and publishes a centralized list of promising investigational candidate compounds, with the purpose of knowledge-sharing and to support better pandemic preparedness. These compounds have been selected based on objective, scientific criteria, using publicly available sources, and at arm's length from commercial influence of our member companies. See criteria listed in the report "Antiviral Clinical Development Landscape and Promising Clinical Compounds." The designation of certain compounds as promising is based upon currently available information, and exclusively upon an assessment against these criteria. "Promising" is not a promotional claim. Candidate compounds have not been assessed by regulatory authorities to be safe and efficacious for the treatment of disease in humans. Our content is designed to be factual, informative, and non-commercial. It is not designed or intended to advertise or promote any pharmaceutical product or therapy or to advance the commercial interests of any company.

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Executive Summary: 5th Edition Antiviral Landscape

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Introduction

- **The global antiviral R&D landscape is now in its 5th Edition (data as of January 2026).**
  - Previous editions include 1st (November 2023 data), 2nd (March 2024), 3rd (July 2024), and 4th (Dec 2024).
  - The 3rd Edition was the first to include analyses of preclinical compounds.
  - In view of the evolving global viral disease situation, led by the WHO, we have added two viral families to our landscape; *Poxviridae* in the 3rd and *Phenuiviridae* in the 5th Editions.
- **Our scientific evaluation of publicly available information is used to categorize compounds in a manner aligned with the overall R&D process, using established definitions found at the INTREPID Alliance website.**
  - Approved antivirals
  - Potential Indication Expansions, clinical and preclinical exploratory
  - Unapproved, investigational antivirals in clinical development
  - Preclinical compounds with no human exposure or clinical data
  - Archived or Discontinued
- **In this 5th Edition update, we highlight recent progress in the antiviral R&D landscape:**
  - New additions to the Approved, Clinical, and Preclinical sections
  - Changes in the phase of development; advancements to the next phase; or moving to archive or discontinued status

Updating the Antiviral Landscape

Only publicly available information is used to update the landscape

New additions based on information from:

- New public disclosures
- Addition of *Phenuiviridae* viral family; Heartland virus, Rift Valley fever virus, and SFTSV
- New entries in Airfinity database
- INTREPID Alliance engagement with AViDD Centers

Changes in stage of development (clinical or preclinical) include:

- Regulatory decisions: Approvals or Compassionate Use designations
- Advancing to the next phase of development (clinical or preclinical)
- Entering clinical development from preclinical
- Moving to Archived or Discontinued (clinical or preclinical)

*As of January 2026. SFTSV: Severe fever with thrombocytopenia syndrome virus. AViDD Centers: Antiviral Drug Discovery Centers for Pathogens of Pandemic Concern, U.S. National Institutes of Health.

Three New Antiviral Approvals for Influenza

No new approvals for COVID-19

Number of distinct, approved antivirals from July 2024 to January 2026*

Compound Category	COVID-19 or Non-COVID-19	Landscape Edition (Data Cut-Off)		
		3rd (Jul 2024)	4th (Dec 2024)	5th (Jan 2026)
Approved	COVID-19	12	12	12
	Non-COVID-19	10**	10**	13**
		22	22	25

**(n=4) compounds approved for both COVID-19 and Influenza are only counted for COVID-19.

Additional detailed information is available starting on pages 34-35 of the 5th Edition of the antiviral R&D landscape.

*As of January 2026.

The Number of Investigational Clinical Compounds Has Remained Relatively Stable for COVID-19 and Non-COVID-19 Viral Disease Indications

A marked 2.24-fold increase in preclinical compounds for Non-COVID-19 is noted since 3rd Edition.

Number of distinct, unapproved antivirals from July 2024 to January 2026*

Compound Category	COVID-19 or Non-COVID-19	Landscape Edition (Data Cut-Off)		
		3rd (Jul 2024)	4th (Dec 2024)	5th (Jan 2026)
Clinical Total		43	38	45
Promising	COVID-19	7[a]	6	6
	Non-COVID-19	4	6	6
Watch & Wait	COVID-19	20	16	21
	Non-COVID-19	12[b]	10[b]	12[b]
Preclinical Total		101	110	147
Preclinical	COVID-19	72	75	82
	Non-COVID-19	29[c]	35[c]	65[d]
		144	148	192

[a]One of these compounds is also counted in the clinical potential indication expansion evaluations.
[b]One of these compounds is in clinical evaluation for 2 viral disease indications.
[c]Five of these compounds are under preclinical evaluation for >1 viral disease indication.
[d]Nine of these compounds are under preclinical evaluations for >1 viral disease indication.

Additional detailed information is available starting on pages 28 and 54 of the 5th Edition of the antiviral R&D landscape.

*As of January 2026.

Indication Expansion (IE) Evaluations Assessing Potential Broad-Spectrum Activity for Non-COVID-19 Viral Diseases Have Increased Over Time

Little to no change in evaluations for COVID-19 is noted.

Number of clinical and preclinical evaluations from July 2024 to January 2026*

Compound Category	COVID-19 or Non-COVID-19	Landscape Edition (Data Cut-Off)		
		3rd (Jul 2024)	4th (Dec 2024)	5th (Jan 2026)
IE - Clinical	COVID-19	3	2	1
	Non-COVID-19	8	11	16
IE - Preclinical Exploratory	COVID-19	4	1	2
	Non-COVID-19	22	22	28
		37	36	47

- The number of evaluations for COVID-19 remains limited (n=3).
- For non-COVID-19 (n=44), favipiravir (12) or remdesivir (8) have the most evaluations.

Additional detailed information is available on page 36 of the 5th Edition of the antiviral R&D landscape.

*As of January 2026.

Potential Indication Expansions: 5th Edition*

Approved compounds

		Potential Indication Expansions (n=35)		
Compound	**Current Approval**	**Preclinical Exploratory (n=22)**	**Clinical (n=13)**	**TOTAL**
Favipiravir	COVID-19; Influenza; SFTSV	Hendra virus; Marburg; Yellow fever (x2); Zika; Hantavirus; Heartland virus; Rift Valley fever	Lassa fever (Ph2); Ebola (Ph2); Crimean Congo hem. fever (Ph2 x2)	12
Remdesivir	COVID-19	Lassa fever; MERS-CoV; SARS-CoV-1; Hendra virus; Marburg; Dengue; Yellow fever	Ebola (Ph3)	8
Adefovir	Hepatitis B	Mpox	-	2
Etravirine	HIV	West Nile; Chikungunya	-	2
Molnupiravir	COVID-19	-	Influenza (Ph2); Dengue (Ph2)	2
Brincidofovir (IV)	Smallpox	-	Human Adenovirus (Ph2)	1
Brincidofovir (Oral)	Smallpox	-	Mpox (Ph3)	1
Cidofovir	CMV	Smallpox/other pox	Mpox (Ph2)	1
Daclatasvir	Hepatitis C	COVID-19	-	1
Oseltamivir	Influenza	-	COVID-19 (Ph3)	1
Sofosbuvir	Hepatitis C	Zika	-	1
Tiratricol	THRS	Yellow fever	-	1
Trifluridine	HSV-1, HSV-2	-	Mpox (Ph2)	1
Zanamivir	Influenza	-	Dengue (Ph2)	1

*As of January 2026. SFTSV: Severe fever with thrombocytopenia syndrome virus; THRS: Thyroid Hormone Resistance Syndrome.

Potential Indication Expansions: 5th Edition*

Investigational compounds (n=12 evaluations with 6 unapproved antivirals)

		Potential Indication Expansions (n=12)		
Compound	**Primary Indication**	**Preclinical Exploratory (n=8)**	**Clinical (n=4)**	**TOTAL**
Aloxistatin	Neurodegen. disease + oncology	Mpox	-	1
Filociclovir	Cytomegalovirus	Human Adenovirus	-	1
Galidesivir	Multiple virus infections	Marburg	-	1
NV-387	Multiple virus infections	Measles; Smallpox/other pox	Mpox (Ph2)	3
Obeldesivir	Multiple virus infections	MERS-CoV; SARS-CoV-1	Ebola, Marburg, and Ebola-Sudan (all Ph2)	5
Rupintrivir	Rhinovirus	COVID-19	-	1

- Only one COVID-19 evaluation is noted.
- For non-COVID-19 (n=11), obeldesivir (n=5) has the most evaluations followed by NV-387.

*As of January 2026. SFTSV: Severe fever with thrombocytopenia syndrome virus; THRS: Thyroid Hormone Resistance Syndrome.

Archived or Discontinued Antiviral Compounds

Number of distinct antiviral compounds July 2024 to January 2026*

Compound Category	COVID-19 or Non-COVID-19	Landscape Edition (Data Cut-Off)		
		3rd (Jul 2024)	4th (Dec 2024)	5th (Jan 2026)
Clinical Total		3	24	26
Archived	COVID-19	0	1	1
	Non-COVID-19	3	7	8
Discontinued	COVID-19	0	5	6
	Non-COVID-19	0	11	11
Preclinical Total		25	61	81
Archived	COVID-19	18	18	25
	Non-COVID-19	7	38[a]	49
Discontinued	COVID-19	0	1	1
	Non-COVID-19	0	4[b]	6
		28	85	107

[a]One compound is also counted in Preclinical COVID-19 Archived.
[b]One of these compounds was under preclinical evaluation for >1 viral disease indication.

- The marked increase from 3rd to 4th Editions was due to a change in methodology for categorizing Archived and Discontinued compounds.
- The 5th Edition increase in archived preclinical compounds for COVID-19 and Non-COVID-19 was primarily related to an indefinite pause in activity due to business decisions.

*As of January 2026.

Additional detailed information is available starting on page 112 of the 5th Edition of the antiviral R&D landscape.

New Additions from 4th to 5th Editions: Clinical (n=23)*

Compounds that were not previously captured in the antiviral R&D landscape

Virus Family	Indication	N	Phase 1	Phase 2	Phase 3	Indication Expansions		Regulatory Designation
						Preclinical Exploratory	Clinical	
Coronaviridae	COVID-19	5	Apo-Si-K170A-C76 CMX990	HL-21 Ratutrelvir		Daclatasvir		
Orthomyxoviridae	Influenza	4		EV25 WXSH-0208	Deunoxavir marboxil			Triazavirin (Approval)
Filoviridae	Ebola-Sudan	1					Obeldesivir (Ph2)	
Flaviviridae	Dengue	1					Molnupiravir (Ph2)	
	West Nile	1				Etravirine		
	Yellow fever	2				Favipiravir/6-MMPr TRIAC		
	Zika	1				Sofosbuvir		
Paramyxoviridae	Nipah	1						Favipiravir (Comp. Use)
Phenuiviridae	Heartland virus	1				Favipiravir		
	Rift Valley fever	1				Favipiravir		
	SFTSV	1						Favipiravir (Approval)
Poxviridae	Mpox	3				Aloxistatin	Brincidofovir-Oral (Ph3) Trifluridine (Ph2)	
Togaviridae	Chikungunya	1				Etravirine		

Additional detailed information is available starting on page 32 of the 5th Edition of the antiviral R&D landscape.

*As of January 2026.
SFTSV: Severe fever with thrombocytopenia syndrome virus.

Changes in Antiviral Clinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds that advanced in development or are now archived or discontinued

Virus Family	Indication	Compound	Discontinued	Archived	Preclinical	Preclinical Exploratory	Phase 1	Phase 2	Phase 3	Approved
Coronaviridae	COVID-19	Amantadine	D/C						App AV-IE	
		Ibuzatrelvir						Prom	Prom	
		P315V				Pot. Cand.		W&W		
Orthomyxoviridae	Influenza	CD388						Prom	Prom	
		Onradivir (ZSP 1273)							Prom	App ONA
		Pixavir marboxil (TG-1000)							Prom	App ONA
		Seloxavir marboxil (ZX-7101A)							Prom	App ONA
		VNT-101				Pot. Cand.	W&W			
Filoviridae	Ebola	Obeldesivir (GS-5245)				Inv AV-IE		Inv AV-IE		
	Marburg					Inv AV-IE		Inv AV-IE		
Flaviviridae	Dengue	Mosnodenvir	D/C					W&W		
	Yellow fever	AT-752		Archived		Inv AV-IE				
Nairoviridae	CCHF	Remdesivir		Archived		App AV-IE				
Paramyxoviridae	Nipah	Remdesivir				App AV-IE				App AV-IE Comp. Use
Poxviridae	Mpox	NV-387					Inv AV-IE	Inv AV-IE		

- 3 compounds achieved regulatory approval for Influenza.
- 2 preclinical compounds advanced into clinical development: COVID-19 & Influenza.

*As of January 2026. CCHF: Crimean-Congo Hemorrhagic fever.

New Additions from 4th to 5th Editions: Preclinical (n=48)*

Compounds that were not previously captured in the antiviral R&D landscape

Virus Family	Indication	N	Hit	Early Lead	Late Lead	Potential Candidate
Coronaviridae	COVID-19	13	**mCNW330** **MWAC-3429**	**AVI-4206** Compound 18 MIC1930 **RA-0002112** SCR005 SCR007	3N39v4-Fc (mRNA) **AVI-4516** **AVI-4773** **AVI-6451**	**Nanosota-9**
	MERS-CoV	2	-	-	AVI-4516 AVI-4773	-
Orthomyxoviridae	Influenza	4	-	Oral replication Inhibitor (ORI) MIC1930 Ro-3306	DS-22-inf-009 DS-22-inf-021	-
Filoviridae	Ebola	2	-	-	**Nanosota-EB1**	**Nanosota-EB2**
Flaviviridae	Dengue	6	-	DHFLV_003B ZXH-2-107 ZXH-8-004	ASAP-0029002 DV-B-120	mCOT466
	West Nile	1	-	DHFLV_003B	-	-
	Yellow fever	4	-	AT-2490	LRP1-Fc Decoy LRP4-Fc Decoy VLDLR-Fc Decoy	-
	Zika	3	-	DHFLV_003B **MWAC-4001**	**ASAP-0036543**	-
	Pan-flavivirus	1	MMV1791425	-	-	-
Nairoviridae	CCHF	1	kCOT923	-	-	-
Paramyxoviridae	Measles	1	-	-	-	**GHP-88310 (EIDD-3608)**
	Nipah	1	-	-	4'-Fluorouridine	-
Phenuiviridae	Heartland virus	1	-	-	-	4'-Fluorouridine
	Rift Valley fever	1	G202-0362	-	-	-
	SFTSV	1	-	-	-	VV251
Picornaviridae	Enterovirus	2	-	**ASAP-0023152**	Compound 21	-
	Rhinovirus	2	-	Pan-viral protease	Compound 21	-
Poxviridae	Smallpox/Other pox	1	-	-	UMM-766	-

Additional detailed information is available starting on page 62 of the 5th Edition of the antiviral R&D landscape.

*As of January 2026; Compounds in **bold** are from NIAID-funded AViDD Centers.

CCHF: Crimean-Congo Hemorrhagic fever; SFTSV: Severe fever with thrombocytopenia syndrome virus.

Changes in Antiviral Preclinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds that advanced in development or are now archived or discontinued

Virus Family	Indication	Compound	Prior Preclinical Status	5th Edition Status
Coronaviridae	COVID-19	3N39v4-Fc (chimeric protein)	Late Lead	Archived
		CDI-45205	Potential Candidate	Archived
		COR803	Potential Candidate	Archived
		GC376	Potential Candidate	Archived
		HT-002	Late Lead	Archived
		Pan-coronavirus protease	Hit	Archived
		P315V	Potential Candidate	Clinical Phase 2
	MERS-CoV	Pan-coronavirus protease	Hit	Archived
	SARS-CoV-1	Pan-coronavirus protease	Hit	Archived
Flaviviridae	Dengue	Compound 24a	Late Lead	Archived
		Compound 28a	Late Lead	Archived
		Dengue protease	Hit	Archived
		JNJ-A07	Late Lead	Archived
		Pan-flavivirus protease	Hit	Archived
	West Nile	Pan-flavivirus protease	Hit	Archived
	Yellow fever	Pan-flavivirus protease	Hit	Archived
	Zika	Saliphylhalamide	Late Lead	Archived
Orthomyxoviridae	Influenza	VNT-101	Potential Candidate	Clinical Phase 1
Togaviridae	Chikungunya	Chikungunya protease	Early Lead	Archived

- 2 compounds advanced to clinical development.
  - 1 for COVID-19 and 1 for Influenza
- A higher number of compounds moving to archived is consistent with the rates of attrition in early drug development.

*As of January 2026.

Additional detailed information is available starting on page 63 of the 5th Edition of the antiviral R&D landscape.

Diverse Representation of Antiviral R&D Program Leads for Clinical and Preclinical Antivirals*

Stage of Development		Type of Antiviral R&D Program Lead		
		Total	Biotech/Pharma	Research Institute
Clinical (Unapproved: Promising and Watch & Wait)	#	46	41	5
	%		*89*	*11*
Preclinical (Hits, Early & Late Leads, and Potential Candidates)	#	161	47	114
	%		*29*	*71*

- Some antiviral R&D program leads are involved with >1 distinct antiviral compound or indication.
- Consistent with the increased resources required, Biotech/Pharma represent **89%** of the ongoing clinical stage activity for investigational compounds in clinical development.
- Research Institutes (**71%**) and Biotech/Pharma (**29%**) were directing preclinical antiviral R&D.
- The antiviral R&D program leads are based in **38** different countries.
  - 1 clinical only; 30 preclinical only; 7 both clinical and preclinical
- Excludes Approved, Indication Expansions, Archived, and Discontinued.

*As of January 2026. Research Institute: university, government- sponsored entity, contract research organization.
Clinical antivirals include those that are in clinical development for a lead indication.
Preclinical antivirals include those that have no clinical or human exposure data.

Takeaways Regarding the Evolution of the Antiviral R&D Landscape (I)

Additions of Viral Families or Viral Disease Indications

- The *Phenuiviridae* viral family was added to the 5th Edition.
- Preclinical compounds specific for enteroviruses were added.
- Three families have no clinical or preclinical evaluations; *Adenoviridae*, *Hantaviridae*, *Peribunyaviridae*.

Clinical

- There were 3 new antiviral approvals for Influenza and none for COVID-19.
- 5 of 12 clinical phase compounds categorized by INTREPID Alliance as Promising have advanced forward in development:
  - 3 Promising achieved regulatory approval for Influenza.
  - 2 Promising moved from Phase 2 to Phase 3.
- The majority of the Promising and Watch & Wait compounds are under evaluation for COVID-19 and Influenza.
  - There is still a gap in phase-2-ready Non-COVID-19/Non-Influenza antivirals

*As of January 2026.

Takeaways Regarding the Evolution of the Antiviral R&D Landscape (II)

Preclinical

- Changes in the preclinical landscape highlight recent efforts toward identifying antivirals for Non-COVID-19 indications.

Indication Expansions

- The increase in potential indication expansions with approved or investigational compounds shows expanding efforts to explore broad-spectrum potential of antivirals with existing clinical experience.

Antiviral R&D Program Leads

- There is a diverse representation of antiviral R&D program leads for clinical and preclinical antivirals.

*As of January 2026.

INTREPID Alliance Antiviral Landscape: 5th Edition*
Clinical and Preclinical Phase Evaluations Across 14 Priority Viral Families

As of January 2026, only 6 of 14 priority viral families have ongoing clinical evaluations
11 of 14 priority viral families have ongoing preclinical evaluations.

Primarily Respiratory Transmission

Viral Family	Disease Indication (n)** Preclinical (123)	Clinical (40)
Adenoviridae	X	X
Coronaviridae	• **COVID-19 (82)** • **MERS-CoV (7)** • SARS-CoV-1 (4) • Seasonal CoV (1)	• **COVID-19 (27)**
Orthomyxoviridae	• **Influenza (18)**	• Influenza (10)
Paramyxoviridae	• Hendra virus (1) • Measles (1) • **Nipah virus (4)** • Parainfluenza (1)	X
Picornaviridae	• **Enterovirus (2)** • **Rhinovirus (2)**	• Polio (2) • Rhinovirus (1)

Primarily Vector/Contact-Mediated Transmission

Viral Family	Disease Indication (n)** Preclinical (38)	Clinical (6)
Arenaviridae	• Junin virus (1) • Lassa fever (1)	• Lassa fever (2) • Chapare hem. fever (1)
Filoviridae	• Ebola (2)	X
Flaviviridae	• **Dengue (8)** • **West Nile (1)** • **Yellow fever (5)** • **Zika (4)** • **Pan-flavivirus (1)**	• Dengue (2)
Hantaviridae	X	X
Nairoviridae	• **Crimean Congo hem. fever (1)**	X
Peribunyaviridae	X	X
Phenuiviridae	• **Heartland virus (1)** • **Rift Valley fever virus (1)** • **SFTSV (1)**	X
Poxviridae	• Mpox (7) • **Smallpox/Other (1)**	• Mpox (1)
Togaviridae	• Chikungunya (3)	X

Bold disease indications: increase or new addition since 4th Edition

X = absence of preclinical or clinical phase antivirals

*As of January 2026; Excludes Approved Antivirals or Indication Expansions; *Phenuiviridae* added.
**Number of compounds in ongoing development. SFTSV: Severe fever with thrombocytopenia syndrome virus.

Key Takeaways Driving the Call to Action

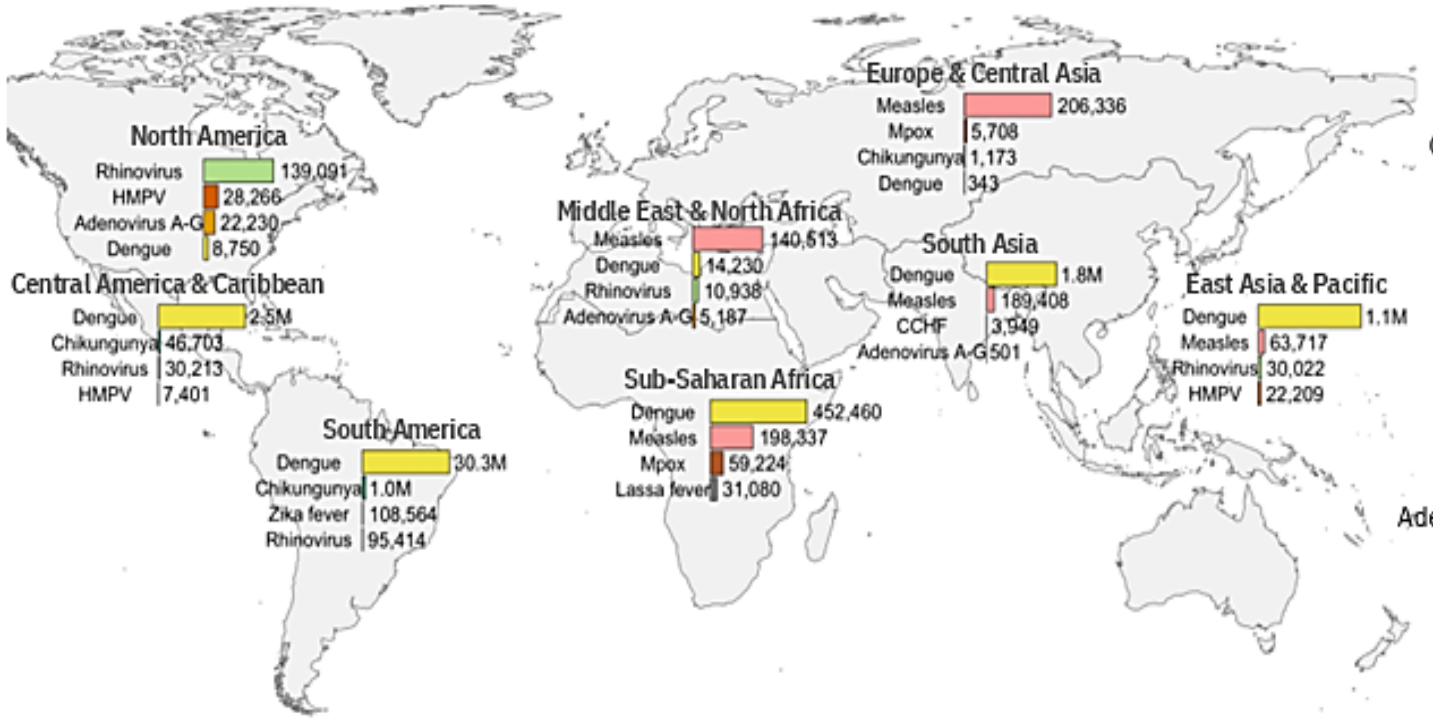
- **Longitudinal analyses shows some, but limited, progress** in preclinical and clinical antiviral R&D; however, significant gaps remain.
  - **Clinical.** The number of investigational clinical compounds has remained relatively stable for COVID-19 and Non-COVID-19 viral disease indications.
  - **Preclinical.** A marked 2.3-fold increase in preclinical compounds for Non-COVID-19 is noted since 3rd Edition.
    - This includes 15 new preclinical compounds from the U.S. NIAID-funded AViDD Centers.
  - **Broad Spectrum.** Indication Expansion (IE) evaluations exploring potential broad-spectrum activity against Non-COVID-19 viral diseases have grown over time.
  - **Approved.** 3 new Influenza antivirals.
- **Gaps remaining:**
  - Three families have no clinical or preclinical evaluations: *Adenoviridae*, *Hantaviridae*, and *Peribunyaviridae*.
  - Only 8 viral disease indications are in clinical evaluation across 6 of the 14 viral families.
  - Preclinical evaluations currently include 11 of 14 priority viral families.
- **Antiviral R&D Program Leads - Types and Geographies:**
  - Biotech and pharmaceutical companies dominate clinical-stage development (89%), reflecting the higher resource demands required in this space.
  - R&D programs across both clinical and preclinical are based in 40 different countries with clinical development leading from the U.S., China, Western Europe, and Japan predominating.
  - For preclinical antiviral research, Research Institutes* lead (71%) alongside Biotech/Pharma (29%).

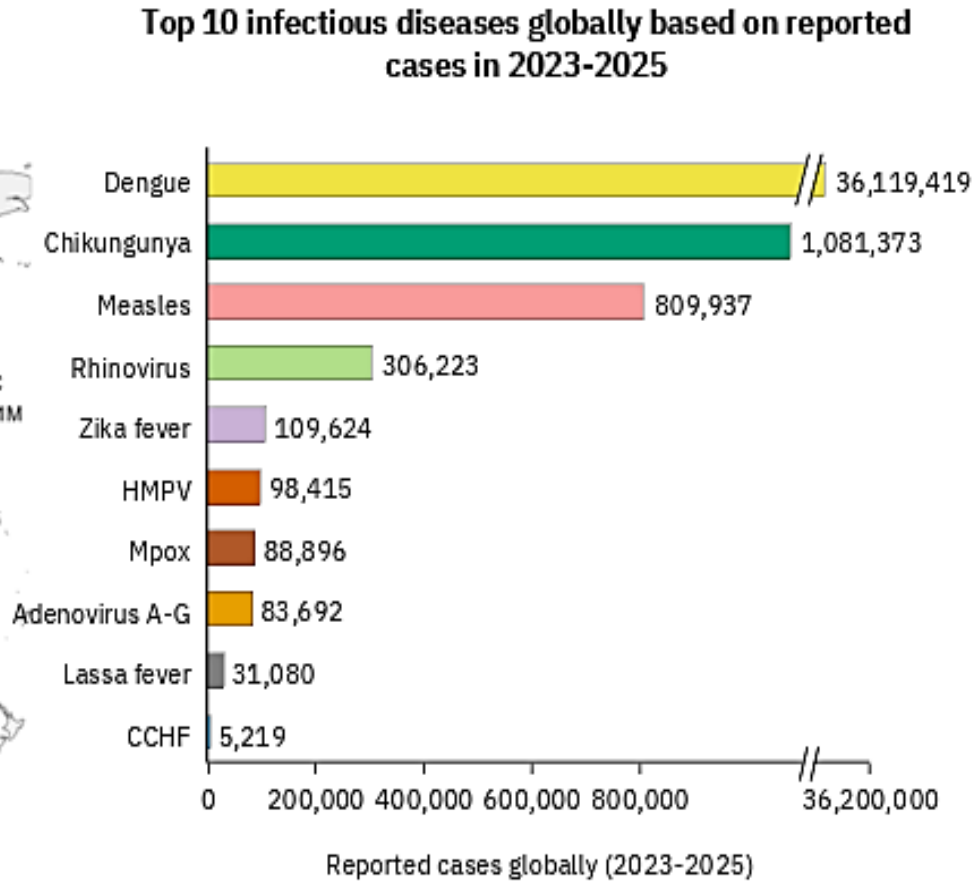
*Research Institutes: university, government- sponsored entity, contract research organization.

Emerging & endemic viruses continue to present a constant risk

Globally, dengue remains the dominant disease, reinforcing it as a high-priority for treatment development given the lack of approved therapies

Global overview of top viral infectious diseases by **total reported cases*** (2023-2025)





Adenovirus A-G | CCHF | Chikungunya | Dengue | HMPV | Lassa fever | Measles | Mpox | Rhinovirus | Zika fever

*Updated 2025. Dengue and mpox reports have increased case counts versus previously sent figures. CCHF: Crimean-Congo hemorrhagic fever; HMPV: Human metapneumovirus.

Call to Action

- **There is a persisting urgent need to address R&D gaps/risks through funding and policymaking with a focus on viruses with pandemic potential as well as emerging viral diseases.**
- **Primary catalysts for immediate action:**
  - Attrition and time required to progress compounds through R&D stages
  - Clear gaps identified by the INTREPID Alliance antiviral landscape analysis
  - Uncertainties about some preclinical candidates
- **Positive steps forward:**
  - BARDA Smart Antiviral Prize with $100M to identify novel therapeutic solutions with broad-spectrum activity against *Togaviridae* and/or *Flaviviridae* families.
  - HORIZON Europe to fund development of SMAV for pathogens of epidemic potential.
  - DG HERA will invest EUR 20M to advance the development of at least two new medicines to treat Dengue.

About the INTREPID Alliance Antiviral Development Landscape

INTREPID Alliance Antiviral Landscape: Our Approach

- **INTREPID Alliance Landscaping Activities**
  - Highlight strengths and weaknesses of the antiviral drug development pipeline for potential pandemic viral pathogens
  - Support the 100 Days Mission (100DM) which seeks to identify two 'Phase 2 ready' therapeutic candidates against each of the identified viral pathogen families of greatest pandemic potential
- **Landscape Analysis**
  - A living analysis of the antiviral landscape that will be updated based on emerging data
  - Derived from Airfinity database information on diverse compounds against 14 viral families (see pages 26-27)
  - Focused on direct-acting small molecule antivirals
- **Timing and Publication on Website**
  - **1st Edition:** Initial triage and selection of clinical compounds with favorable properties and antiviral mechanism of action – January 2024
  - **2nd Edition:** Detailed review and identification of most Promising Clinical and Approved-Indication Expansion Compounds – April 2024
  - **3rd Edition**: Quarterly update for Clinical Development Landscape; initial Antiviral Preclinical Development Landscape release; Mpox Clinical and Preclinical Landscape - October 2024
  - **4th Edition**: Quarterly update for Clinical and Preclinical Antiviral Landscape – April 2025
  - **5th Edition**: Latest update for Clinical and Preclinical Antiviral Landscape – May 2026 with January 2026 data
  - Semi-Annual Updates – Ongoing

Landscape Analysis Components*

Airfinity monitors 14 viral families that pose the greatest risk of pandemic potential.
With thanks to Airfinity for its contributions to the presentation.

Baseline Information Identified:

- Diverse Compound/Indications by Viral Family and Disease
- Phase of Development (e.g., Preclinical through Phase 4, Approved)
- MOA/Target
- Route of Administration
- Developer or Sponsor (Type, Location)
- Clinical Trials (Links, Status, Trial Site Locations)

Inclusion Criteria:

- Preclinical & Clinical
  - Known antiviral MOA
  - *In vitro/In vivo* activity
  - Small molecules
  - Peptides
  - RNA-based
- Clinical
  - SAD/MAD data ongoing or completed
  - FIH ongoing or completed
  - No major safety signals

Figures & Tables:

- 14 Viral Families of Interest for Pandemic Preparedness
- Total Pipeline by Viral Family
- Promising Clinical and Indication-Expansion Compounds
- Compounds by Viral Family and Phase of Development
- Compounds by MOA/Target and Viral Family
- Phase of development vs viral disease for each MOA
- Developer or Sponsor
- Preclinical compounds

- Emerging information is reviewed on a quarterly basis.
- Antiviral Landscape updated on the INTREPID Alliance website on a semi-annual basis.

*Now 14 viral families to align with updated World Health Organization (WHO) Pathogens Prioritization report from June 2024.
MOA: mechanism of action; SAD/MAD: Single Ascending Dose/Multiple Ascending Dose; FIH: first-in-human.

INTREPID Alliance Antiviral Landscape: 5th Edition*
Clinical and Preclinical Phase Evaluations Across 14 Priority Viral Families

As of January 2026, only 6 of 14 priority viral families have ongoing clinical evaluations
11 of 14 priority viral families have ongoing preclinical evaluations.

Primarily Respiratory Transmission

Viral Family	Disease Indication (n)** Preclinical (123)	Clinical (40)
Adenoviridae	X	X
Coronaviridae	• **COVID-19 (82)** • **MERS-CoV (7)** • SARS-CoV-1 (4) • Seasonal CoV (1)	• **COVID-19 (27)**
Orthomyxoviridae	• **Influenza (18)**	• Influenza (10)
Paramyxoviridae	• Hendra virus (1) • Measles (1) • **Nipah virus (4)** • Parainfluenza (1)	X
Picornaviridae	• **Enterovirus (2)** • **Rhinovirus (2)**	• Polio (2) • Rhinovirus (1)

Primarily Vector/Contact-Mediated Transmission

Viral Family	Disease Indication (n)** Preclinical (38)	Clinical (6)
Arenaviridae	• Junin virus (1) • Lassa fever (1)	• Lassa fever (2) • Chapare hem. fever (1)
Filoviridae	• Ebola (2)	X
Flaviviridae	• **Dengue (8)** • **West Nile (1)** • **Yellow fever (5)** • **Zika (4)** • **Pan-flavivirus (1)**	• Dengue (2)
Hantaviridae	X	X
Nairoviridae	• **Crimean Congo hem. fever (1)**	X
Peribunyaviridae	X	X
Phenuiviridae	• **Heartland virus (1)** • **Rift Valley fever virus (1)** • **SFTSV (1)**	X
Poxviridae	• Mpox (7) • **Smallpox/Other (1)**	• Mpox (1)
Togaviridae	• Chikungunya (3)	X

Bold disease indications: increase or new addition since 4th Edition

X = absence of preclinical or clinical phase antivirals

*As of January 2026, excludes Approved antivirals and Indication Expansions; *Phenuiviridae* added. **Number of compounds in ongoing development.
SFTSV: Severe fever with thrombocytopenia syndrome virus.

Clinical Antiviral Development Landscape as of January 2026

INTREPID Alliance Clinical Antiviral Landscape: Clinical Antiviral Compounds Analysis Update (5th Edition)*

- Clinical Landscape Analyses previously reported on the INTREPID Alliance website:
  - 1st Edition (January 2024) with data through November 2023. Available here.
  - 2nd Edition (April 2024) with data through March 2024. Available here.
  - 3rd Edition (October 2024) with data through July 2024. Available here.
  - 4th Edition (April 2025) with data through December 2024. Available here.
- This 5th Edition analysis of the data through January 2026 shows that there are **53** distinct antiviral compounds in the antiviral clinical development landscape.
  - **8** have prior regulatory approval and **45** are novel unapproved.
- Data were organized based on stage of clinical development and regulatory approval:
  - Novel Unapproved Clinical Phase Antiviral Compounds (e.g., not yet approved for a virus disease indication)
  - Indication Expansion Antiviral Compounds (e.g., initial approval for one viral indication or unapproved under evaluation for other lead viral indication(s))
- Additional scientific analysis** of only the novel compounds categorized them as follows:
  - **Promising**
  - **Watch & Wait**
  - **Archived**
  - **Discontinued**

*As of January 2026; **See criteria and references on pages 30-31.

Criteria* for Promising Clinical Antiviral Compounds Analysis**

- FIH trial completed and data at adequate doses and dosing duration available.
- POC study ongoing *or* completed and data available.
  - POC demonstration via viral endpoint, symptom alleviation, etc.
  - POC in animal model may be applicable for certain viral diseases where clinical POC is not feasible.
- Adequate PK/PD to support Phase 2/3 dose selection and route of administration.
- Safety and tolerability consistent with the target dose/exposure and no difficult-to-manage clinical safety signals.
- Other criteria such as chemical structure, synthesis, scalability, etc., are taken into account where data are available.

*In addition to the collective antiviral drug development experience of INTREPID Alliance member companies, guidance documents from Regulatory Authorities such as the U.S. FDA routinely used by drug developers, and publicly available Target Product Profiles such as the NIH/NIAID Target Product Profiles for Antivirals, were used to inform the clinical phase triage.

**As defined in 2nd and 3rd Editions of the Clinical Antiviral Landscape (available here); see disclaimer information on page 2. FIH: first-in-human; POC: proof-of-concept; PK/PD: pharmacokinetic/pharmacodynamic.

Categories for Clinical Antiviral Compound Analysis*

- **Promising** (e.g., meets "Promising Criteria")
  - 100 Days Mission Ready
  - Registration & Approval for established viral diseases
- **Watch & Wait**
  - FIH or POC Study just starting/ongoing or data are unavailable for a completed study
  - Unable to make a data-driven evaluation
- **Archived**
  - Development paused, no recent information >5 years
  - May be useful to inform new screening or medicinal chemistry efforts
- **Discontinued**
  - Development stopped for known reasons; e.g., change in business strategy, lack of efficacy or funding, low enrollment, PK variability preventing effective dosing, other
  - May be useful to inform new screening or medicinal chemistry efforts

*As also defined in 2nd and 3rd Editions of the Clinical Antiviral Landscape (available here), with addition of "Discontinued" in the 4th Edition.
FIH: first-in-human; POC: proof-of-concept; PK: pharmacokinetic.

New Additions from 4th to 5th Editions: Clinical (n=23)*

Compounds that were not previously captured in the antiviral R&D landscape

Virus Family	Indication	N	Phase 1	Phase 2	Phase 3	Indication Expansions		Regulatory Designation
						Preclinical Exploratory	Clinical	
Coronaviridae	COVID-19	5	Apo-Si-K170A-C76 CMX990	HL-21 Ratutrelvir		Daclatasvir		
Orthomyxoviridae	Influenza	4		EV25 WXSH-0208	Deunoxavir marboxil			Triazavirin (Approval)
Filoviridae	Ebola-Sudan	1					Obeldesivir (Ph2)	
Flaviviridae	Dengue	1					Molnupiravir (Ph2)	
	West Nile	1				Etravirine		
	Yellow fever	2				Favipiravir/6-MMPr TRIAC		
	Zika	1				Sofosbuvir		
Paramyxoviridae	Nipah	1						Favipiravir (Comp. Use)
Phenuiviridae	Heartland virus	1				Favipiravir		
	Rift Valley fever	1				Favipiravir		
	SFTSV	1						Favipiravir (Approval)
Poxviridae	Mpox	3				Aloxistatin	Brincidofovir-Oral (Ph3) Trifluridine (Ph2)	
Togaviridae	Chikungunya	1				Etravirine		

*As of January 2026.
SFTSV: Severe fever with thrombocytopenia syndrome virus.

Changes in Antiviral Clinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds that advanced in development or are now archived or discontinued

Virus Family	Indication	Compound	Discontinued	Archived	Preclinical	Preclinical Exploratory	Phase 1	Phase 2	Phase 3	Approved
Coronaviridae	COVID-19	Amantadine	D/C						App AV-IE	
		Ibuzatrelvir						Prom	Prom	
		P315V				Pot. Cand.		W&W		
Orthomyxoviridae	Influenza	CD388						Prom	Prom	
		Onradivir (ZSP 1273)							Prom	App ONA
		Pixavir marboxil (TG-1000)							Prom	App ONA
		Seloxavir marboxil (ZX-7101A)							Prom	App ONA
		VNT-101				Pot. Cand.	W&W			
Filoviridae	Ebola	Obeldesivir (GS-5245)				Inv AV-IE		Inv AV-IE		
	Marburg					Inv AV-IE		Inv AV-IE		
Flaviviridae	Dengue	Mosnodenvir	D/C					W&W		
	Yellow fever	AT-752		Archived		Inv AV-IE				
Nairoviridae	CCHF	Remdesivir		Archived		App AV-IE				
Paramyxoviridae	Nipah	Remdesivir				App AV-IE				App AV-IE Comp. Use
Poxviridae	Mpox	NV-387					Inv AV-IE	Inv AV-IE		

- 3 compounds achieved regulatory approval for Influenza.
- 2 preclinical compounds advanced into clinical development: COVID-19 & Influenza.

*As of January 2026. CCHF: Crimean-Congo Hemorrhagic fever.

Summary of Updated Antiviral Clinical Development Landscape with Promising Clinical Compounds (5th Edition)*

- As of January 2026, 25 distinct antiviral compounds identified as having regulatory approval(s) within the 14 viral families of interest:
  - 13 by Stringent Authority (S.A.)
  - 11 by Other National Authority (O.N.A.)
  - 1 by S.A. and O.N.A.
- The 25 antiviral approvals are for 4 viral indications (COVID-19, Influenza, Poxviruses, and SFTSV) within 4 viral families.
  - 26 for COVID-19 (n=8), Influenza (n=10), or both (n= 4 x 2)
  - 5 for Smallpox (n=3), Cowpox (n=1), Mpox (n=1)
  - 1 for SFTSV
- Clinical evaluation of potential antiviral indication expansions, with approved antivirals or those unapproved yet currently in clinical development for a different lead antiviral indication, is a practical way to assess broad-spectrum antiviral activity.
  - 2 of the approved antivirals highlighted above are under evaluation for potential indication expansions across 11 viral diseases.
  - 5 antivirals approved for viral indications outside of the 14 viral families are under evaluation for 6 potential indication expansions.
  - 1 compound approved for a non-viral disease is under evaluation for 1 potential antiviral indication.
- There are 45 distinct unapproved antivirals under clinical development; 1 of these is in clinical development for 2 indications.
  - These Promising and Watch & Wait clinical compounds target entry (n=12), protease (n=19), replication (n=11), and assembly-release (n=3).

*As of January 2026; SFTSV: Severe fever with thrombocytopenia syndrome virus.
**Some compounds are being evaluated for more than one viral indication.

Approved Antivirals: COVID-19, Influenza, Mpox, Smallpox/Other Poxviruses, and SFTSV*

Approved S.A. (n=17)

- Ensitrelvir (S-217622)
- Nirmatrelvir/rtv
- Amantadine
- Favipiravir
- Oseltamivir
- Rimantadine
- Tecovirimat
- Tecovirimat (Smallpox EU & U.S.)
- Favipiravir**
- Molnupiravir
- Remdesivir
- Baloxavir Marboxil
- Laninamivir
- Peramivir
- Zanamivir
- Tecovirimat (Cowpox EU Only)
- Brincidofovir

Approved O.N.A. (n=15)

- Azvudine
- Favipiravir
- Mindeudesivir (VV116)
- Triazavirin
- Enisamium (VR17-04)
- Pixavir marboxil (TG-1000)**
- Umifenovir
- NIOH-14
- Enisamium (VR17-04)
- Leritrelvir (RAY1216)
- Simnotrelvir/rtv
- Umifenovir
- Onradivir (ZSP1273)**
- Triazavirin**
- ZX-7101A**

- **25** distinct antiviral compounds have received regulatory approval for COVID-19, Influenza, Mpox, Smallpox/Other Poxviruses, or Severe Fever with Thrombocytopenia Syndrome Virus (SFTSV).
- **4** compounds are approved for both COVID-19 and Influenza (favipiravir, triazavirin, umifenovir, and enisamium).

Indication	S.A. (17)	O.N.A. (15)
COVID-19	4	8
Influenza	8	6
Mpox	1	0
Smallpox/other pox	3	1
SFTSV (Japan only)	1	0

*As of January 2026; WHO-defined Other National Authority (https://www.who.int/publications/m/item/list-of-transitional-wlas).
**New Approval. SFTSV: Severe fever with thrombocytopenia syndrome virus.

Antiviral-Indication Expansions: Preclinical & Clinical Compound/Indications (N=47)*

Investigational: Antiviral compounds in clinical phase development for a different virus disease indication.
Approved: Antiviral compounds approved for treatment of a different virus disease indication.

- 5 of these antivirals are approved for treatment of COVID-19 and/or Influenza; favipiravir, remdesivir, molnupiravir, oseltamivir, and zanamivir.
- Favipiravir (12) and remdesivir (8) have the most indication expansions under evaluation (42.6%, 20/47).

*As of January 2026. **New additions or change in phase of development.

All Clinical Phase Antiviral Evaluations (N=93)

INTREPID Alliance Analysis (5th Edition)*

- 63 of compound/indications are under evaluation in Phase 1 through Phase 3 clinical studies.
  - 17 potential clinical phase indication expansions include 13 with an approved and 4 with an investigational (unapproved) antiviral.
  - 46 clinical phase evaluations are with investigational antivirals being studied for their first indication.
- 30 evaluations are in Preclinical Exploratory studies.
  - 22 evaluations including 8 approved compounds
  - 8 evaluations including 6 investigational compounds

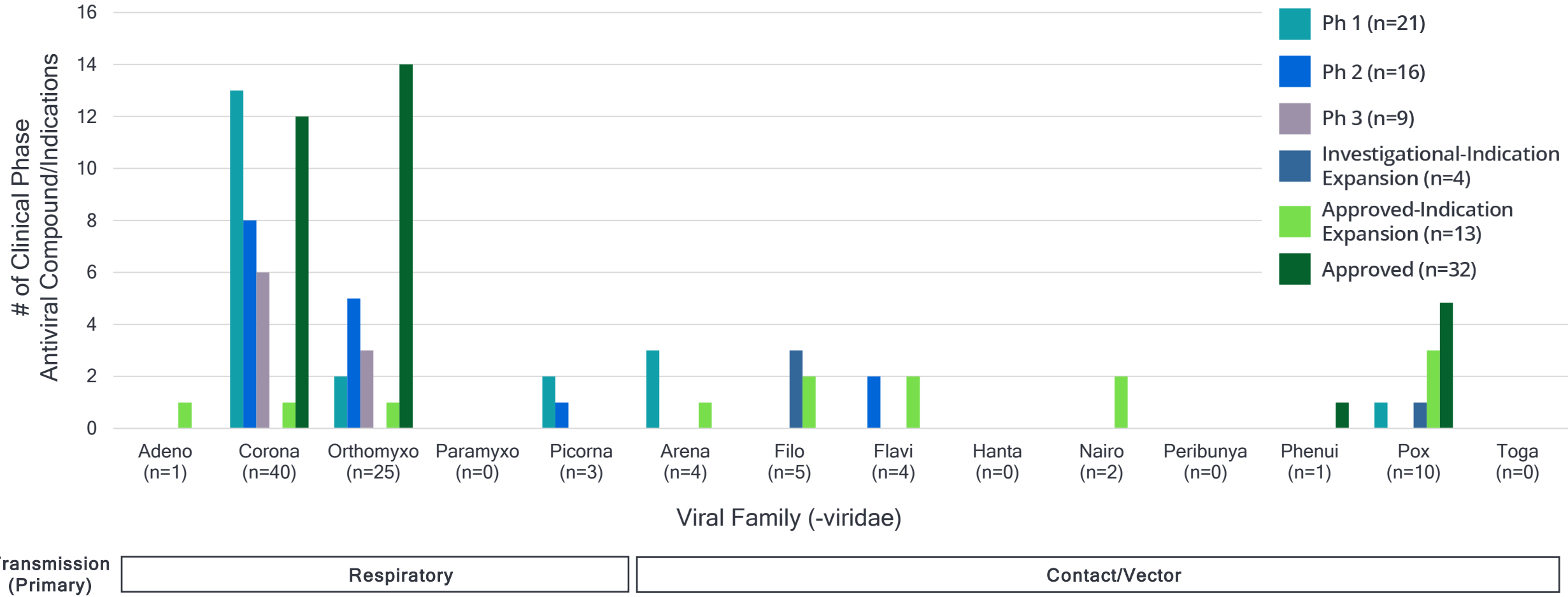
ADV: adefovir
Brin (IV): brincidofovir IV
CDV: cidofovir
DCV: daclatasvir
ETV: etravirine
FAV: favipiravir
FCV: filociclovir
GDV: galidesivir
MOL: molnupiravir
ODV: obeldesivir
OTV: oseltamivir
RDV: remdesivir
RPT: rupintrivir
SOF: sofosbuvir
ZVR: zanamivir

*As of January 2026; data with "Promising" Analysis defined in March 2024.
**New additions or change in phase of development.

INTREPID ALLIANCE

The Majority of Clinical Phase Antiviral Compound/Indications Are Targeting Coronaviruses and Orthomyxoviruses*

Clinical Phase Antiviral Compound/Indications by Virus Family (5th Edition, N=95)

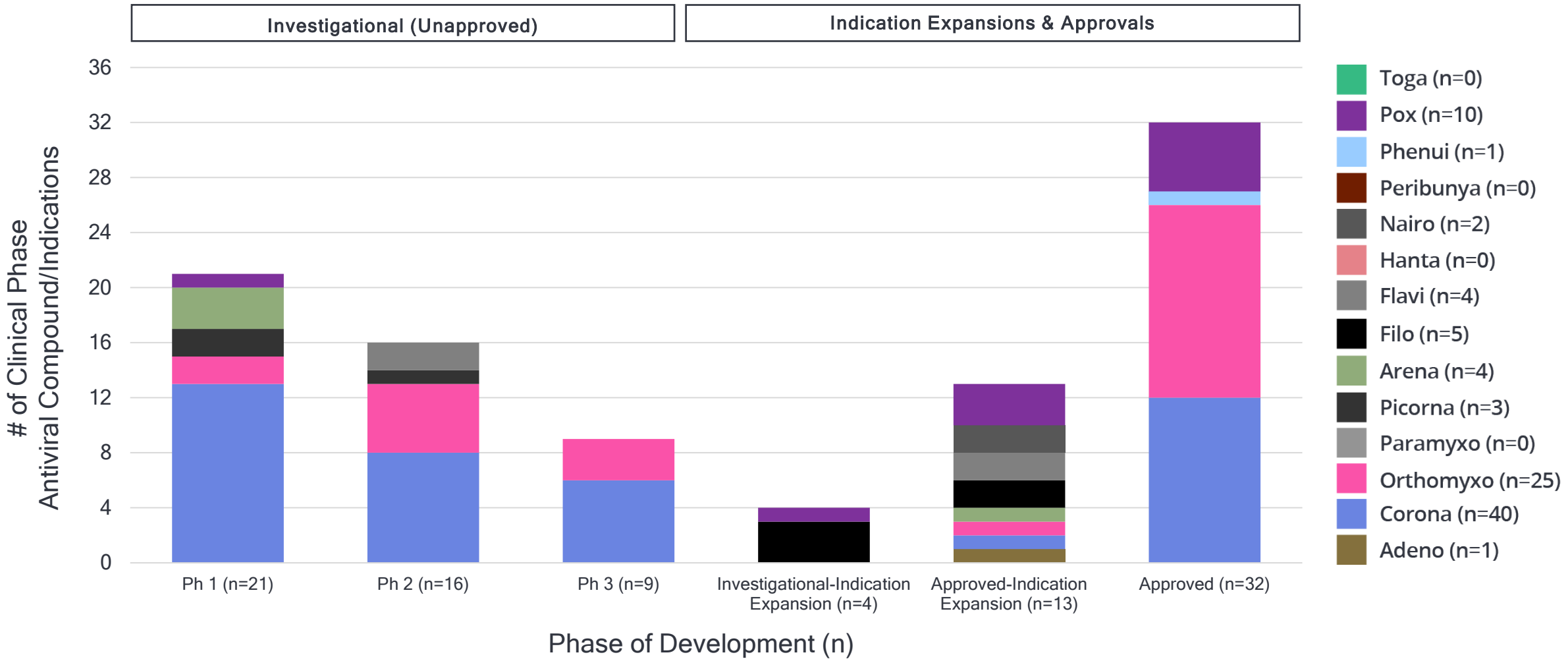


*As of January 2026.

INTREPID ALLIANCE

The Majority of Clinical Phase Antiviral Compound/Indications Are Targeting Coronaviruses and Orthomyxoviruses*

Clinical Phase Antiviral Compound/Indications by Virus Family (5th Edition, N=95)

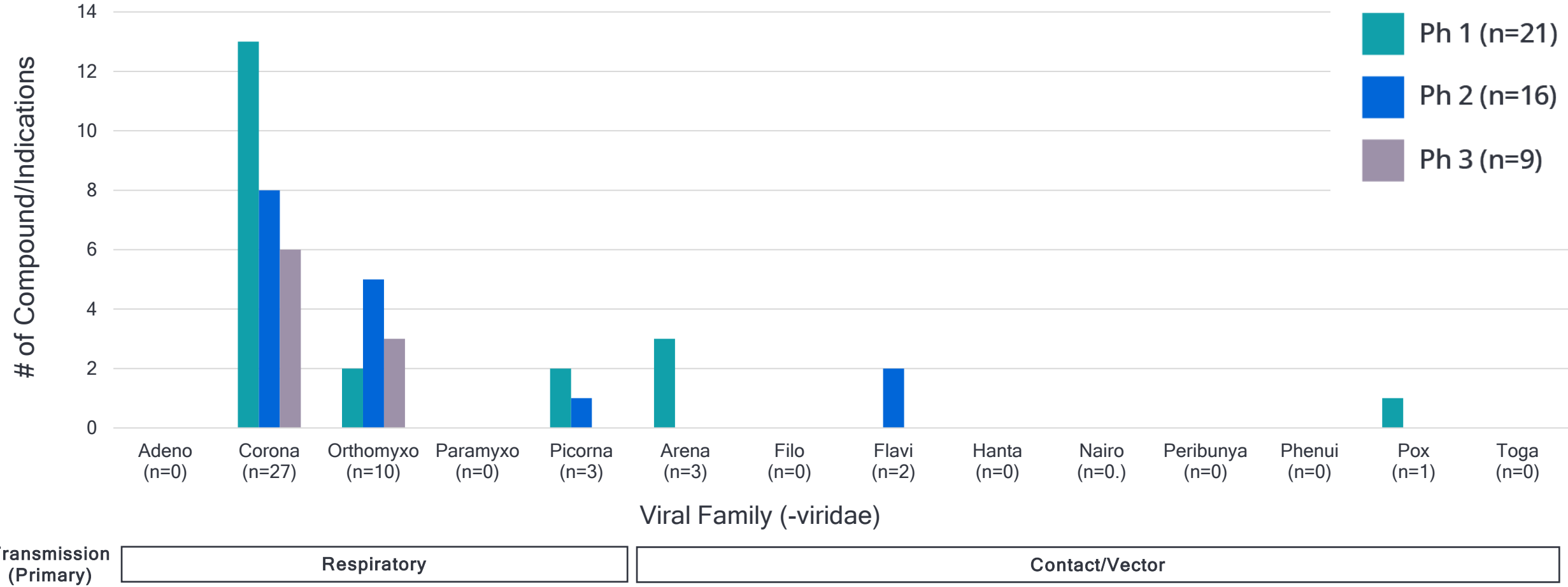


*As of January 2026.

INTREPID ALLIANCE

“Promising” Clinical Compounds Analysis (5th Edition)*

Unapproved Compounds (Promising and Watch & Wait) by Virus Family (N=46)

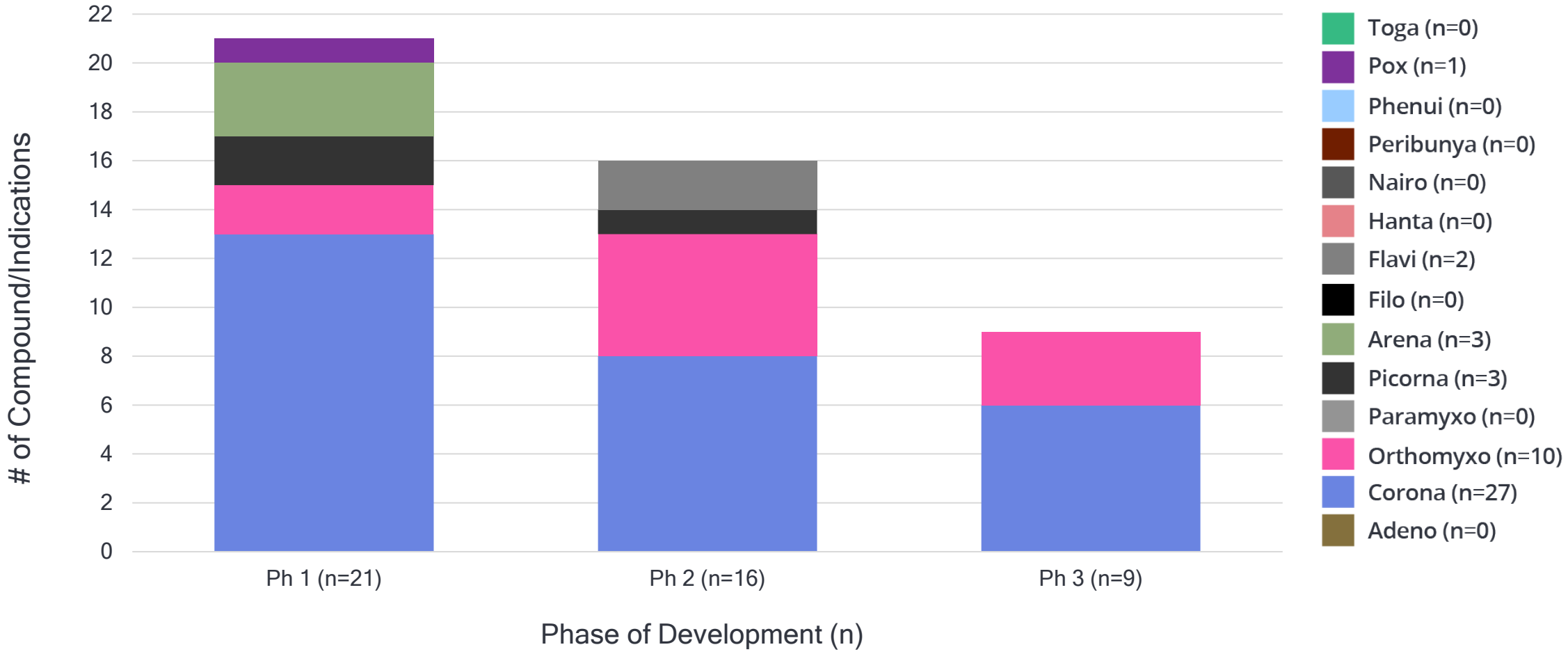


*As of January 2026.

INTREPID ALLIANCE

“Promising” Compounds Analysis (5th Edition)*

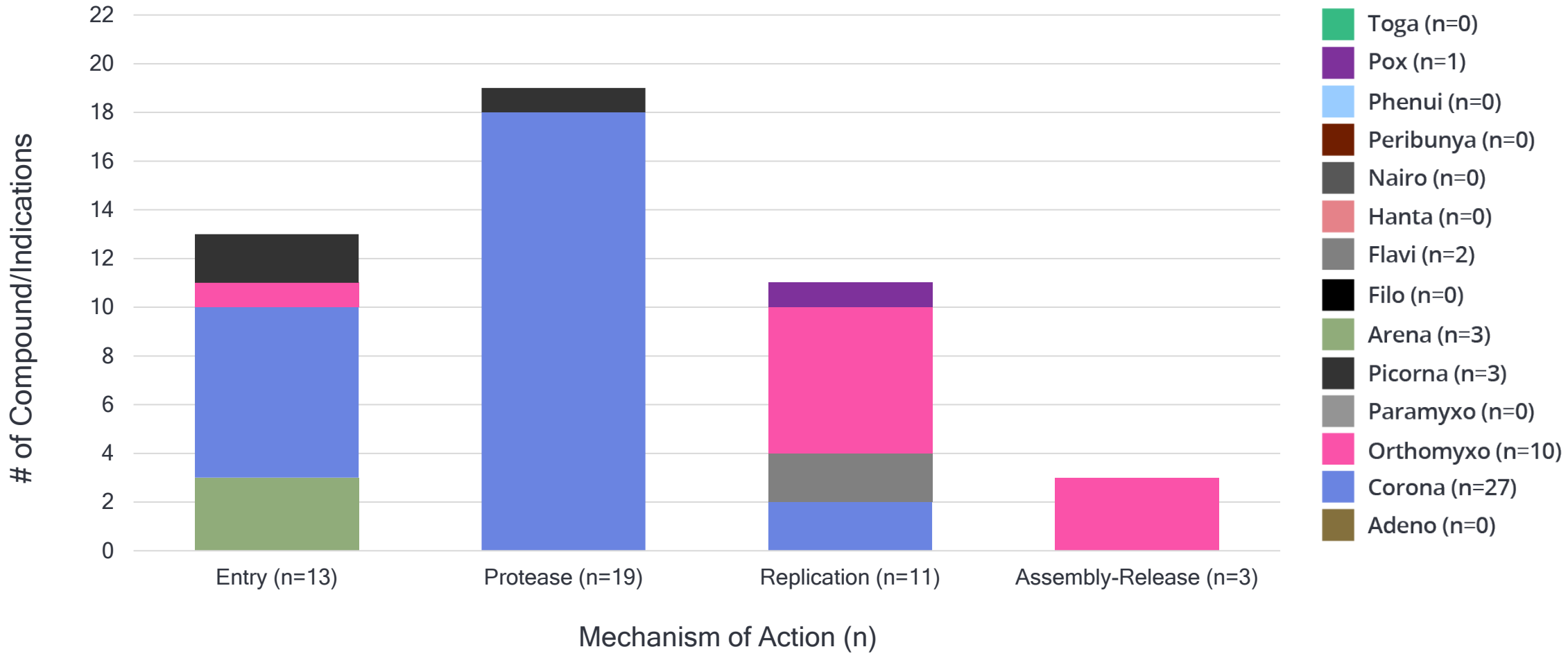
Novel Compound/Indications (Promising and Watch & Wait) by Phase of Development (N=46)



*As of January 2026.

“Promising” Compounds Analysis (5th Edition)*

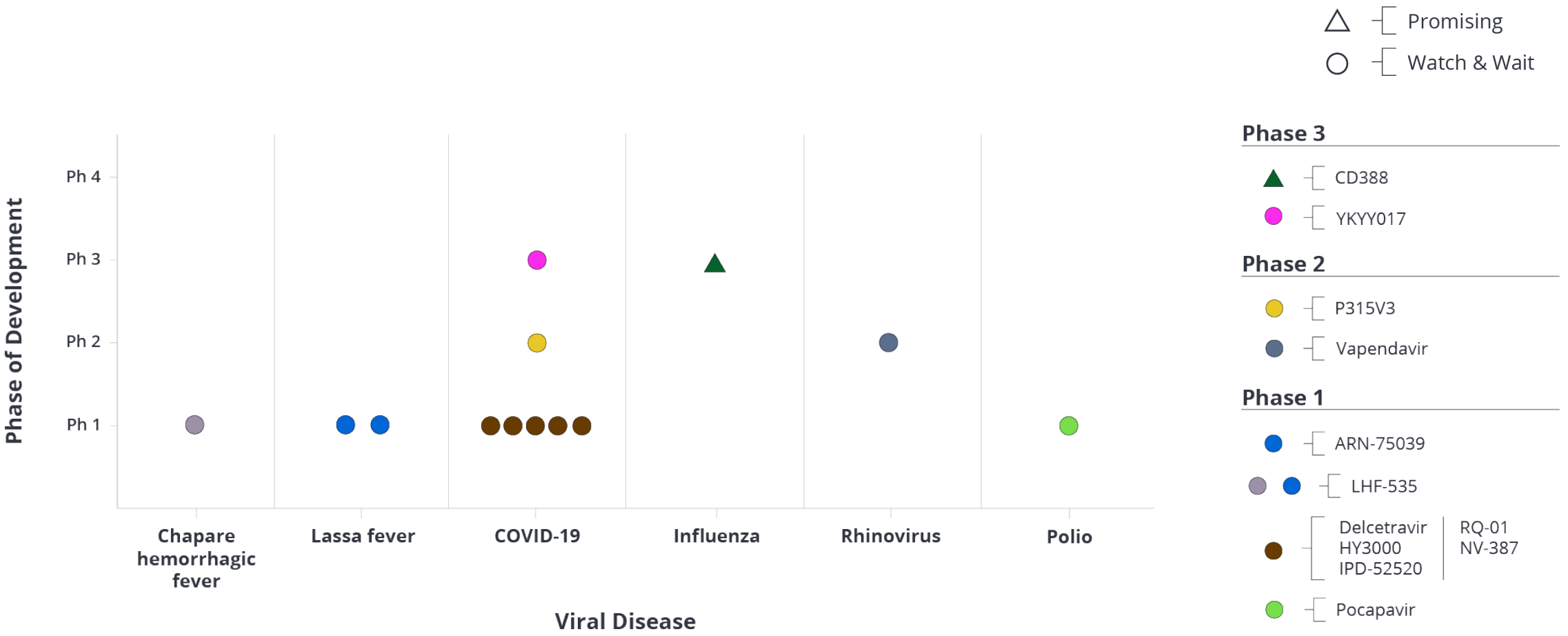
Novel Compound/Indications (Promising and Watch & Wait) by MOA and Viral Family (N=46)



*As of January 2026.

Novel Clinical Antiviral Entry Inhibitors*

Novel Compound/Indications (Promising, Watch & Wait (N=13))

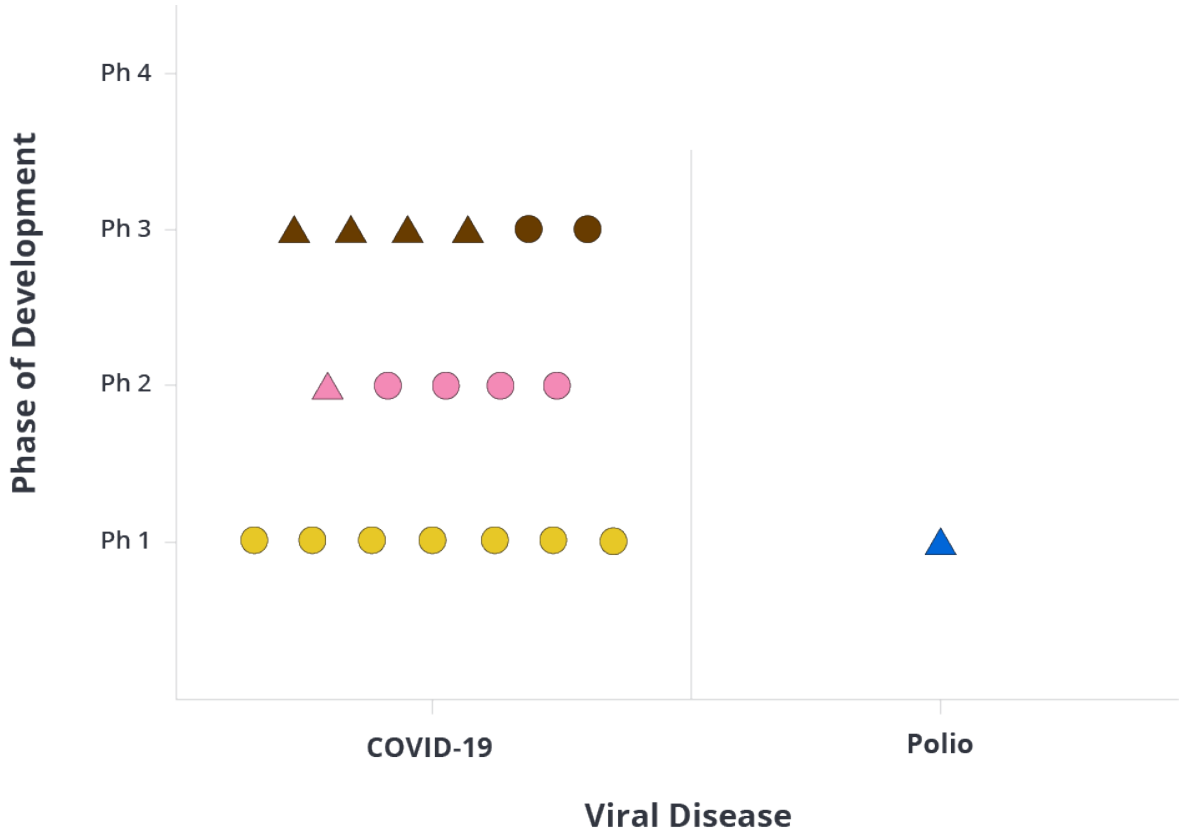


*As of January 2026.

INTREPID ALLIANCE

Novel Clinical Antiviral Protease Inhibitors*

Novel Compound/Indications (Promising, Watch & Wait, Archived (N=19))



△ Promising

○ Watch & Wait

** New; Change in Status

Phase 3

▲ GST-HG171 | Olgotrelvir (STI-1558)
Ibuzatrelvir** | QLS1128

● FB2001
WPV01

Phase 2

▲ EDP-235

● HL-21** | Ratutrelvir**
HS 10517/Ritonavir | S-892216

Phase 1

▲ Imocitrelvir (V-7404)

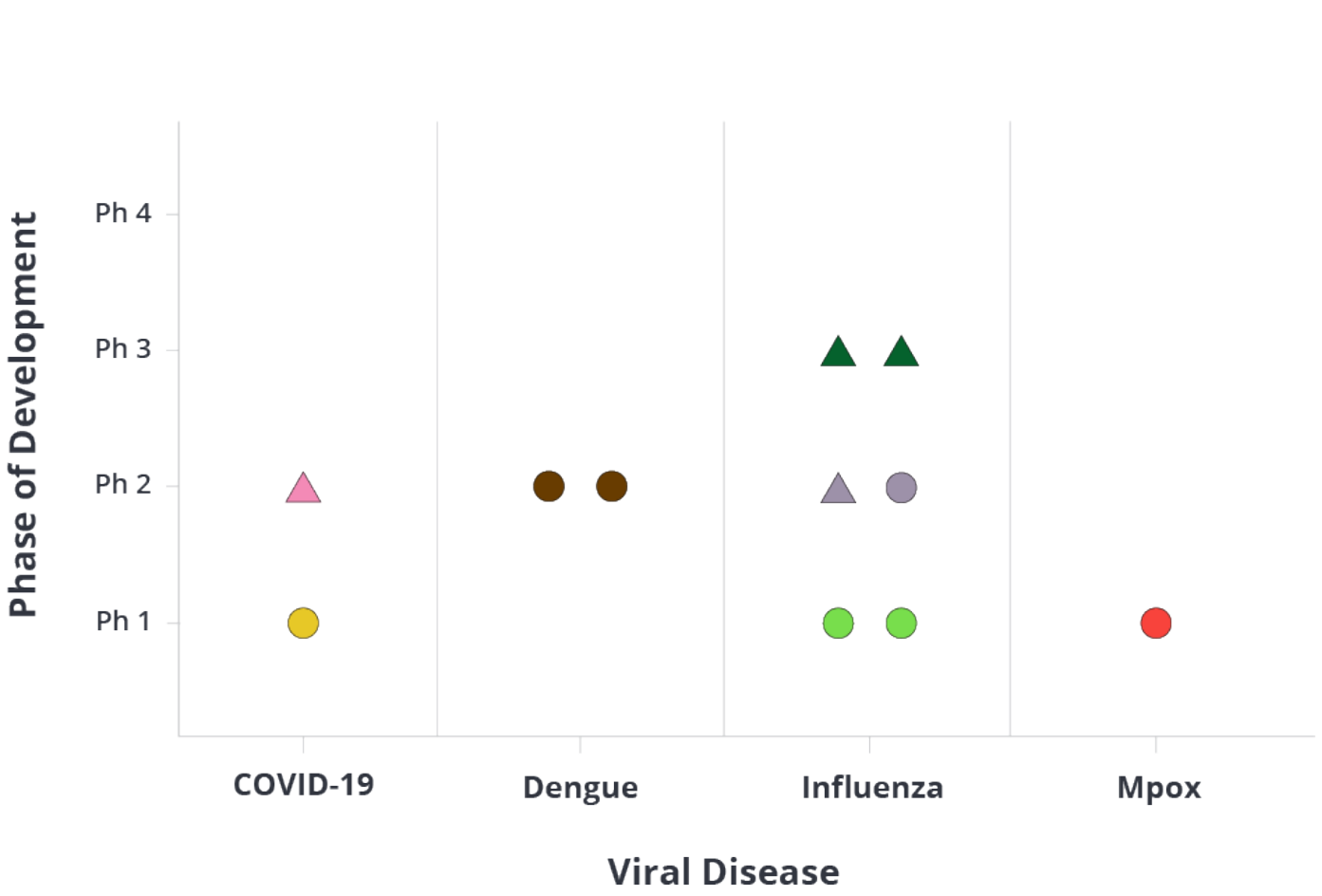
● ALG-097558 | GS-00202
ASC11/Ritonavir | ISM3312
CDI-988 | Limnetrelvir (ABBV 903)
CMX990**

*As of January 2026.

INTREPID ALLIANCE

Novel Clinical Antiviral Replication Inhibitors*

Novel Compound/Indications (Promising, Watch & Wait (N=11))



△ Promising

○ Watch & Wait

** New; Change in Status

Phase 3

▲ Seloxavir Marboxil (GP681)
Deunoxavir Marboxil**

Phase 2

▲ SHEN26

● EYU688**
Mosnodenvir**

▲ WXSH-0208**

● CC-42344

Phase 1

● Apo-Si-K170A-C76**

● Tivoxavir Marboxil (TRX100)**
VNT-101

● ASC10

*As of January 2026.

INTREPID ALLIANCE

Novel Clinical Antiviral Assembly-Release Inhibitors*

Novel Compound/Indications (Promising, Watch & Wait, Archived (N=3))

*As of January 2026.

INTREPID ALLIANCE

Summary of Updated Antiviral Clinical Development Landscape with Promising Clinical Compounds (5th Edition)*

- As of January 2026, 25 distinct antiviral compounds identified as having regulatory approval(s) within the 14 viral families of interest:
  - 13 by Stringent Authority (S.A.)
  - 11 by Other National Authority (O.N.A.)
  - 1 by S.A. and O.N.A.
- The 25 antiviral approvals are for 4 viral indications (COVID-19, Influenza, Poxviruses, and SFTSV) within 4 viral families.
  - 26 for COVID-19 (n=8), Influenza (n=10), or both (n= 4 x 2)
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  - 1 for SFTSV
- Clinical evaluation of potential antiviral indication expansions, with approved antivirals or those unapproved yet currently in clinical development for a different lead antiviral indication, is a practical way to assess broad-spectrum antiviral activity.
  - 2 of the approved antivirals highlighted above are under evaluation for potential indication expansions across 11 viral diseases.
  - 5 antivirals approved for viral indications outside of the 14 viral families are under evaluation for 6 potential indication expansions.
  - 1 compound approved for a non-viral disease is under evaluation for 1 potential antiviral indication.
- There are 45 distinct unapproved antivirals under clinical development; 1 of these is in clinical development for 2 indications.
  - These Promising and Watch & Wait clinical compounds target entry (n=12), protease (n=19), replication (n=11), and assembly-release (n=3).

*As of January 2026; SFTSV: Severe fever with thrombocytopenia syndrome virus.
**Some compounds are being evaluated for more than one viral indication.

Clinical Antiviral R&D Program Leadership

Clinical Antiviral R&D Program Leads*

- The biopharmaceutical industry (both large and small companies) represents **74** (**79%**) of the global R&D program leads for ongoing clinical evaluations (**93**) with the remainder (19, 21%) led by research institutes.
- For the **46** Promising and Watch & Wait clinical compound/indications:
  - The countries most represented by clinical antiviral R&D program leads developers/sponsors are the United States (**49.5%**) and China (**37.5%**). Others include:
    - Australia, Belgium, Israel, Japan, Russia, Switzerland, each at **<3%**
  - The majority (**63%**) are located in countries with high-income economies.
    - The remainder are located in China which has an upper-middle income economy.

- A planned review of R&D funders in the clinical space is forthcoming.

*As of January 2026; Includes clinical compounds categorized as Approved/Investigational Antivirals-Indication Expansions, Promising, and Watch & Wait.
Research Institute: university, government- sponsored entity, contract research organization.

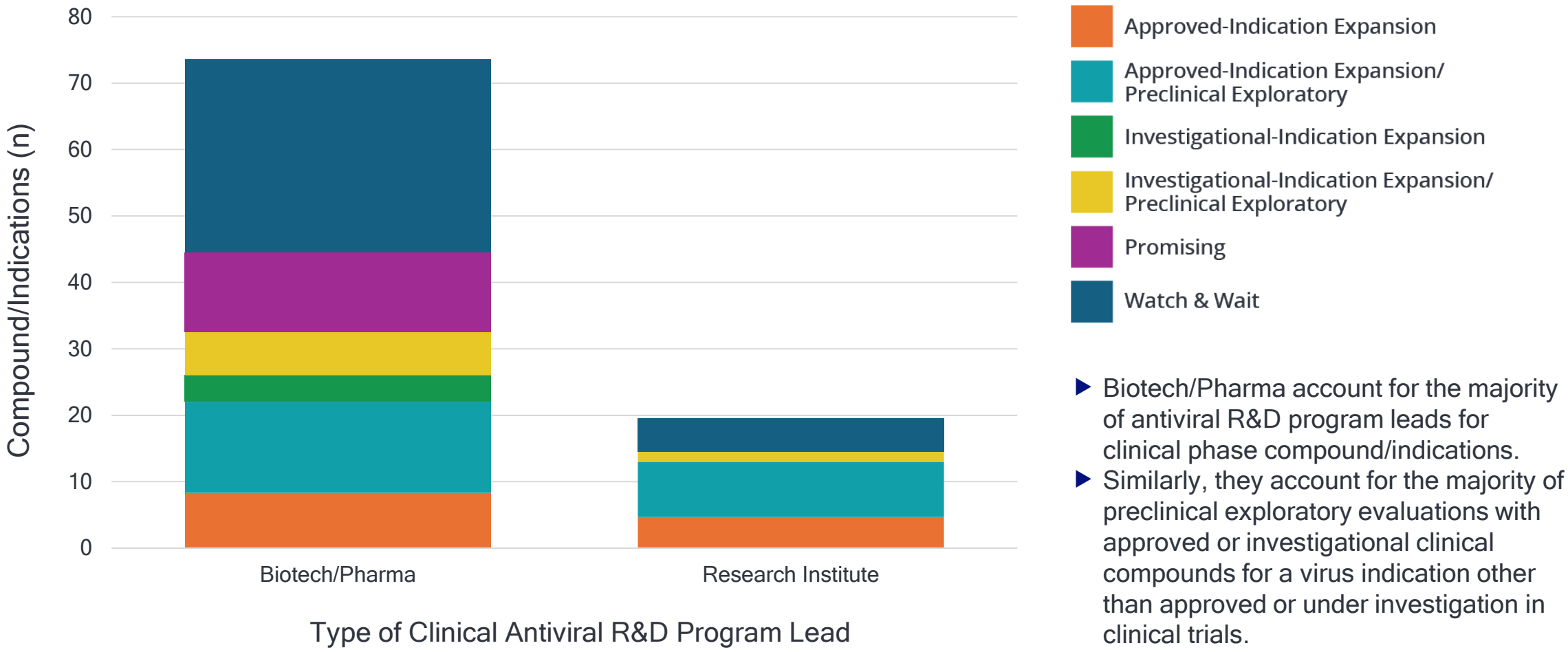
Diverse Representation of Clinical Antiviral R&D Program Leads*

Stage of Development		Type of Clinical Antiviral R&D Program Lead		
		Total	Biotech/Pharma	University/Research Institute
Clinical (Unapproved: Promising, and Watch & Wait)	#	46	41	5
	%		*89*	*11*

- Some clinical antiviral R&D program leads are involved with >1 distinct antiviral compound or indication.
- Consistent with the increased resources required, Biotech/Pharma represent 89% of the on-going clinical stage activity for investigational compounds in clinical development.
- The clinical antiviral R&D program leads for these 46 compounds are based in 8 different countries.
  - 7 of these also have representation in the preclinical antiviral landscape.
- Excludes Approved, Indication Expansions, Archived, and Discontinued.

*As of January 2026. Research Institute: university, government-sponsored entity, contract research organization.

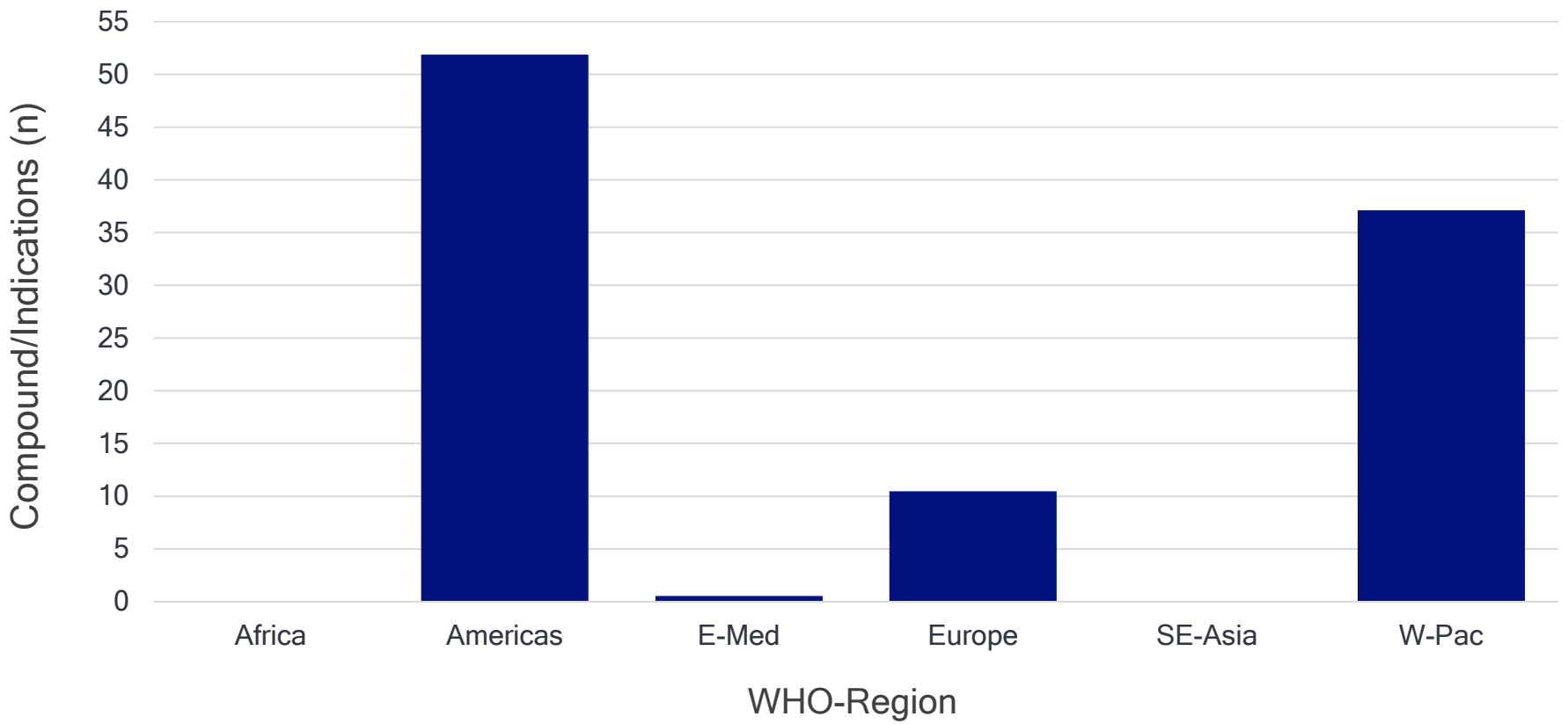
Clinical Antiviral Compound/Indications by R&D Program Lead Type*



- Biotech/Pharma account for the majority of antiviral R&D program leads for clinical phase compound/indications.
- Similarly, they account for the majority of preclinical exploratory evaluations with approved or investigational clinical compounds for a virus indication other than approved or under investigation in clinical trials.

*As of January 2026; Includes clinical compounds categorized as Approved/Investigational Antivirals-Indication Expansions, Promising, and Watch & Wait.
Research Institute: university, government-sponsored entity, contract research organization.

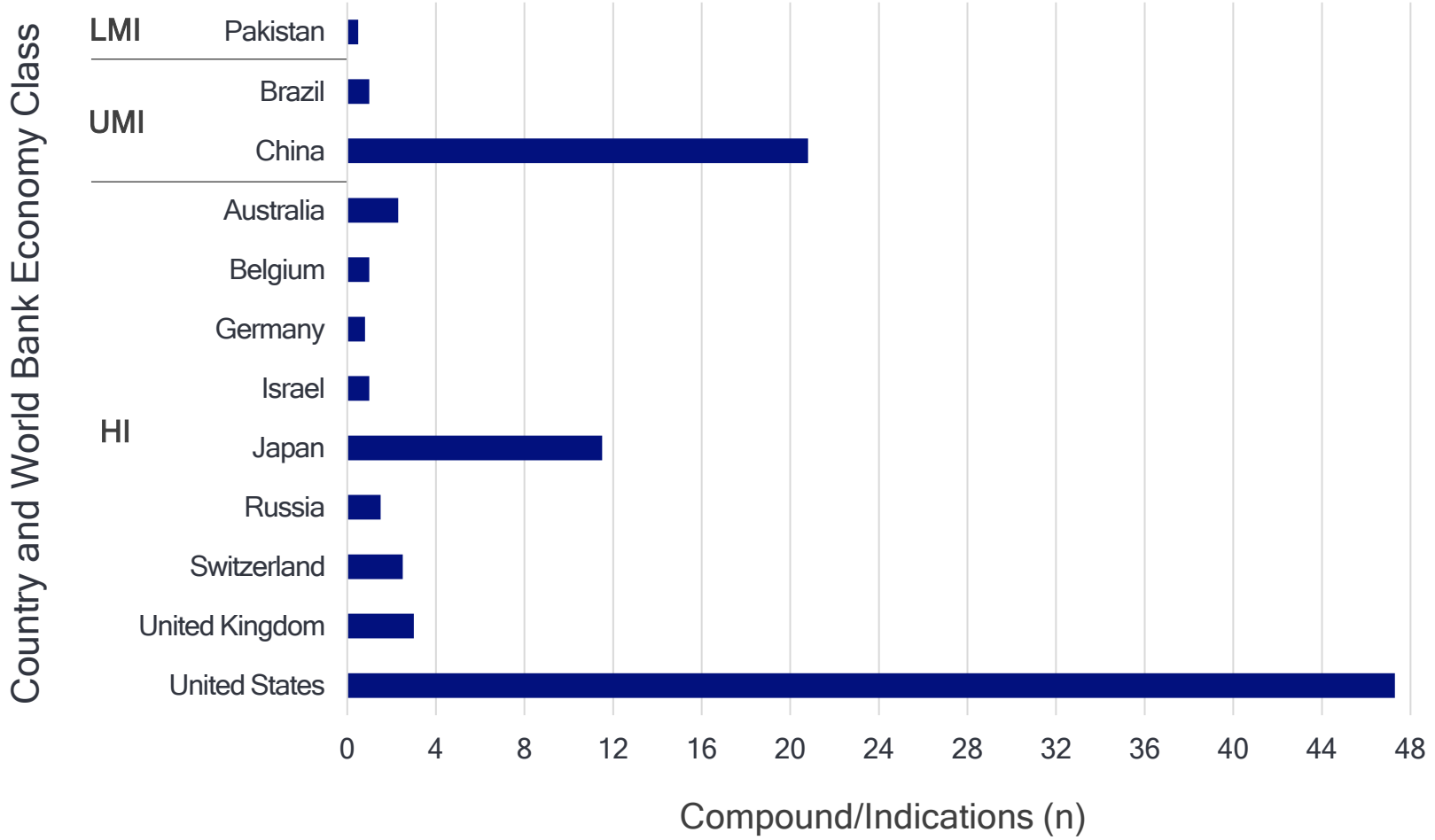
Clinical Antiviral Compound/Indications by R&D Program Lead WHO-Region* (N=93)



- The Americas and Western Pacific regions are primarily driven by the United States and China.

*As of January 2026; Includes clinical compounds categorized as Approved/Investigational Antivirals-Indication Expansions, Promising, and Watch & Wait.

Clinical Antiviral Compound/Indications* by Country and World Bank Economy Class** (N=93)



- The majority (**76%**) of R&D program leads of Indication Expansion, Promising and Watch & Wait clinical antiviral compound/indications are located in countries with high-income economies.
  - The remainder are those with upper-middle (**23%**) and lower-middle (**0.5%**) income economies.
- The United States (HI) and China (UMI) have the most representation.

*As of January 2026; Includes clinical compounds categorized as Approved/Investigational Antivirals-Indication Expansions, Promising, and Watch & Wait.
**World Bank country classifications by income level for 2024-2025. LMI: lower-middle income; UMI: upper-middle income; HI: high-income.

Preclinical Antiviral Development Landscape as of January 2026

Disclaimer

The INTREPID Alliance is a not-for-profit consortium of innovative biopharmaceutical companies and affiliates committed to accelerating antiviral research, aiming to ensure that we have a stronger pipeline and are better prepared for future pandemics.

As part of our efforts, the INTREPID Alliance maintains and publishes a centralized list of promising investigational candidate compounds, with the purpose of knowledge-sharing and to support better pandemic preparedness. These compounds have been selected based on objective, scientific criteria, using publicly available sources, and at arm's length from commercial influence of our member companies. See criteria listed in the report "Antiviral Clinical Development Landscape and Promising Clinical Compounds." The designation of certain compounds as promising is based upon currently available information, and exclusively upon an assessment against these criteria. "Promising" is not a promotional claim. Candidate compounds have not been assessed by regulatory authorities to be safe and efficacious for the treatment of disease in humans. Our content is designed to be factual, informative, and non-commercial. It is not designed or intended to advertise or promote any pharmaceutical product or therapy or to advance the commercial interests of any company.

INTREPID Alliance Preclinical Triage and Classification

- Preclinical compounds in Airfinity database:
  - Triage based on publicly available data into general therapeutic categories/mechanism.
  - Airfinity provided the key references/citations associated with the preclinical compounds.
- Challenges in classifying preclinical compounds:
  - Amount/Type of data available varies substantially.
  - Not every "published" preclinical compound is or will be a clinical candidate.
    - Tool compound, lead series, etc. in publications
- Proposed classification on type of data available consistent with industry stages of discovery R&D:
  - Preclinical compounds designated as "Hit", "Early Lead", "Late Lead", "Potential Candidate".
  - Archived preclinical compounds lack published data suggesting no further development; only computational-based antiviral data reported.
  - Compounds with prior clinical data designated as Approved Antiviral-Indication Expansion, Investigational Antiviral-Indication Expansion, or Other-Indication Expansion (non-antiviral).

Examples of publicly available data for INTREPID Alliance review of preclinical compound/indications:

In vitro	Structure/Sequence	*In vivo* Exposure (animal)	*In vivo* Efficacy (animal)	Prior Clinical Data Available
Biochemical Cell-based (e.g., replicon, pseudovirus) Cell-based antiviral (wild-type, variants) ADME Resistance profile	Chemical structure Amino acid sequence RNA sequence	PK Safety/Toxicology	Treatment Prevention	Yes No

ADME: absorption, distribution, metabolism, and excretion; PK: pharmacokinetic.

INTREPID Alliance Preclinical Triage: Stages of Preclinical Development

Categories generally align with movement of a compound across the stages of drug discovery.

- Preclinical Compounds with only preclinical data and no clinical data designated as:
  - **Hit** – high-throughput or compound library screening hit, initial antiviral activity requiring significant optimization. Limited or no *in vitro* data available supporting antiviral mechanism of action (MOA).
  - **Early Lead** – limited Structure-Activity Relationship (SAR), antiviral activity associated with MOA, may have limited *in vitro/in vivo* pharmacokinetic data reported.
  - **Late Lead** – potency consistent with candidate quality for the specific MOA, more extensive *in vitro* characterization (e.g., ADME profile, activity against clinically relevant virus strains/isolates), *in vivo* PK and/or animal efficacy model data reported.
  - **Potential Candidate** – *in vivo* efficacy and safety dataset consistent with preparation for FDA IND (or similar) submission; compound has been reported by developer as a pipeline clinical candidate and/or in IND (or similar) enabling studies.
  - **Archived** – progress on the compound has been stopped (timeframe stopped, >5 years); antiviral evidence is only computational; previously optimized drug from another antiviral/other indication that only has weak activity. May be useful to inform new screening or medicinal chemistry efforts.
  - **Discontinued** – compound progression has been stopped for known reasons; for example, compound failed preclinical "IND" toxicology, change in business strategy, etc. May be useful to inform new screening or medicinal chemistry efforts.
- Preclinical Exploratory are Investigational ("unapproved") and Approved antivirals exploring antiviral activity against a different virus from the Investigational/Approved antiviral indication, including:
  - **Approved Antiviral-Indication Expansion** – antiviral approved for one or more viral disease indications.
  - **Investigational Antiviral-Indication Expansion** – antiviral in clinical development, not yet approved.

ADME: absorption, distribution, metabolism, and excretion; PK: pharmacokinetic; IND: Investigational New Drug.

INTREPID Alliance Preclinical Antiviral Landscape: Preclinical Antiviral Compounds Analysis Update (5th Edition)*

- Preclinical Landscape Analyses previously reported on the INTREPID Alliance website:
  - Initial post within 3rd Edition with data through July 2024 was reported in October 2024. Available here.
  - The 4th Edition with data through December 2024 was reported April 2025. Available here.
- This 5th Edition analysis of the data through January 2026 shows:
  - **138** distinct antiviral compounds in the antiviral preclinical development landscape associated with **161** indications; **82** for COVID-19 and **79** for Non-COVID.
- Data were organized based on stage of development:
  - **Preclinical** are novel unapproved antiviral compounds with only preclinical data and no clinical data.
  - **Preclinical Exploratory** are unapproved clinical phase or approved antivirals exploring activity against a different virus from the primary antiviral indication, including:
    - **Approved Antiviral-Indication Expansion** – antiviral approved for one or more viral disease indications.
    - **Investigational Antiviral-Indication Expansion** – antiviral in clinical development, not yet approved.
- Additional scientific analysis** of only the novel preclinical compounds categorized them based on the relative stage of preclinical development from “Hit” to “Potential Candidate”.

*As of January 2026; **See criteria on page 57.

The Number of Distinct Preclinical Compounds Had a Marked 2-fold Increase for Non-COVID-19 Viral Disease Indications from the 3rd to the 5th Edition*

Number of distinct, preclinical antivirals

COVID-19 or Non-COVID-19	Landscape Edition (Data Cut-Off)		
	3rd (Jul 2024)	4th (Dec 2024)	5th (Jan 2026)
COVID-19	72	75	82
Non-COVID-19	29[a]	35[a]	65[b]
	101	110	147

[a]Five of these compounds are under preclinical evaluation for >1 viral disease indication.
[b]Nine of these compounds are under preclinical evaluations for >1 viral disease indication.

5th Edition Preclinical Summary (Non-COVID-19):

- **2.24-fold increase** in distinct preclinical Non-COVID-19 compounds since the 3rd Edition.
- **65** distinct compounds are under evaluation for **25** viral disease indications across **11** viral families.
- **9** of the 65 compounds are under evaluation for 2 or more viral disease indications.
- Overall, there are **79** preclinical evaluations across Non-COVID-19 indications with highest activity in these viral families and disease indications:
  - *Flaviviridae* (**19**, 24.1%), *Orthomyxoviridae* (**18**, 22.6%), and *Coronaviridae* (**12**, 15.2%)
  - Influenza (**18**, 22.6%), Dengue (**8**, 10.1%), MERS-CoV (**7**, 8.9%), and Mpox (**7**, 8.9%)

*As of January 2026.

Summary of Preclinical Antiviral Compounds & Stage of Development (5th Edition)*

Stage of Preclinical Development	Distinct Compounds	# Compound/Indications**		
		All	COVID-19	Non-COVID-19
Preclinical* **	**224**	**245**	**108**	**137**
On-going Activity	147	161	82	79
Potential Candidate	17	22	9	13
Late Lead	33	34	13	21
Early Lead	49	55	23	32
Hit	48	50	37	13
Archived & Discontinued	77	84	26	58
Archived	72	77	25	52
Discontinued	5	7	1	6
Preclinical Exploratory	**14**	**30**	**2**	**28**
App. Cpds.-Ind. Exp.	8	22	1	21
Inv. Cpds.-Ind. Exp.	6	8	1	7
Overall Total	**238**	**275**	**110**	**165**

- **147** distinct **Preclinical** compounds have on-going activity.
- These are associated with **161** viral disease indications.
  - **82** (50.9%) target COVID-19

- **14** distinct **Preclinical Exploratory** investigational or approved antivirals have on-going activity.
- These are associated with **30** viral disease indications.
  - **28** (93.3%) target Non-COVID-19

*As of January 2026. **Some compounds are being evaluated for more than 1 viral indication.
***App. Cpds.-Ind. Exp.: Approved Compounds-Indication Expansion; Inv. Cpds.-Ind. Exp.: Investigational Compounds-Indication Expansion.

Summary of Preclinical Antiviral Compounds & Mechanism of Action (5th Edition)*

Mechanism of Action	# Distinct Compounds**		
	All	COVID-19	Non-COVID-19
Preclinical	**147**	**82**	**65**
Entry	42	24	20
Protease	45	35	10
Replication	48	18	28
Assembly/Release	6	1	5
Unspecified	6	4	2
Preclinical Exploratory* **	**14**	**2**	**12**
App. Cpds.-Ind. Exp. Replication	8	1	7
Inv. Cpds.-Ind. Exp. Entry	1	0	1
Inv. Cpds.-Ind. Exp. Protease	2	1	1
Inv. Cpds.-Ind. Exp. Replication	3	0	3
Overall Total	**161**	**94**	**77**

- **147** distinct **Preclinical** compounds have on-going activity.
- Primary target **MOA**:
  - **Overall: entry, protease, replication**
    - **42** entry (28.6%)
    - **45** protease (30.6%)
    - **48** replication (32.7%)
  - **COVID-19: 35** protease (42.7%)
  - **Non-COVID-19: 28** replication (43.1%)

- **14** distinct **Preclinical Exploratory** investigational or approved. compounds have on-going activity
- Primary target **MOA**:
  - **Overall: 11** replication (78.6%)
  - **COVID-19: 1** protease & **1** replication
  - **Non-COVID-19: 10** replication (90.9%)

*As of January 2026; Does not include compounds that are now archived or discontinued. **Some compounds are being evaluated for more than 1 viral indication.
***App. Cpds.-Ind. Exp.: Approved Compounds-Indication Expansion; Inv. Cpds.-Ind. Exp.: Investigational Compounds-Indication Expansion.

New Additions from 4th to 5th Editions: Preclinical (n=48)*

Compounds that were not previously captured in the antiviral R&D landscape

Virus Family	Indication	N	Hit	Early Lead	Late Lead	Potential Candidate
Coronaviridae	COVID-19	13	**mCNW330** **MWAC-3429**	**AVI-4206** Compound 18 MIC1930 **RA-0002112** SCR005 SCR007	3N39v4-Fc (mRNA) **AVI-4516** **AVI-4773** **AVI-6451**	**Nanosota-9**
	MERS-CoV	2	-	-	AVI-4516 AVI-4773	-
Orthomyxoviridae	Influenza	4	-	Oral replication Inhibitor (ORI) MIC1930 Ro-3306	DS-22-inf-009 DS-22-inf-021	-
Filoviridae	Ebola	2	-	-	**Nanosota-EB1**	**Nanosota-EB2**
Flaviviridae	Dengue	6	-	DHFLV_003B ZXH-2-107 ZXH-8-004	**ASAP-0029002** DV-B-120	mCOT466
	West Nile	1	-	DHFLV_003B	-	-
	Yellow fever	4	-	AT-2490	LRP1-Fc Decoy LRP4-Fc Decoy VLDLR-Fc Decoy	-
	Zika	3	-	DHFLV_003B **MWAC-4001**	**ASAP-0036543**	-
	Pan-flavivirus	1	MMV1791425	-	-	-
Nairoviridae	CCHF	1	kCOT923	-	-	-
Paramyxoviridae	Measles	1	-	-	-	**GHP-88310 (EIDD-3608)**
	Nipah	1	-	-	4'-Fluorouridine	-
Phenuiviridae	Heartland virus	1	-	-	-	4'-Fluorouridine
	Rift Valley fever	1	G202-0362	-	-	-
	SFTSV	1	-	-	-	VV251
Picornaviridae	Enterovirus	2	-	**ASAP-0023152**	Compound 21	-
	Rhinovirus	2	-	Pan-viral protease	Compound 21	-
Poxviridae	Smallpox/Other pox	1	-	-	UMM-766	-

*As of January 2026; Compounds in **bold** are from NIAID-funded AViDD Centers.
CCHF: Crimean-Congo Hemorrhagic fever; SFTSV: Severe fever with thrombocytopenia syndrome virus.

Changes in Antiviral Preclinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds that advanced in development or are now archived or discontinued

Virus Family	Indication	Compound	Prior Preclinical Status	5th Edition Status
Coronaviridae	COVID-19	3N39v4-Fc (chimeric protein)	Late Lead	Archived
		CDI-45205	Potential Candidate	Archived
		COR803	Potential Candidate	Archived
		GC376	Potential Candidate	Archived
		HT-002	Late Lead	Archived
		Pan-coronavirus protease	Hit	Archived
		P315V	Potential Candidate	Clinical Phase 2
	MERS-CoV	Pan-coronavirus protease	Hit	Archived
	SARS-CoV-1	Pan-coronavirus protease	Hit	Archived
Flaviviridae	Dengue	Compound 24a	Late Lead	Archived
		Compound 28a	Late Lead	Archived
		Dengue protease	Hit	Archived
		JNJ-A07	Late Lead	Archived
		Pan-flavivirus protease	Hit	Archived
	West Nile	Pan-flavivirus protease	Hit	Archived
	Yellow fever	Pan-flavivirus protease	Hit	Archived
	Zika	Saliphylhalamide	Late Lead	Archived
Orthomyxoviridae	Influenza	VNT-101	Potential Candidate	Clinical Phase 1
Togaviridae	Chikungunya	Chikungunya protease	Early Lead	Archived

- 2 compounds advanced to clinical development.
  - 1 for COVID-19 and 1 for Influenza
- A higher number of compounds moving to archived is consistent with the rates of attrition in early drug development.

*As of January 2026.

Preclinical Compounds by Stage of Preclinical Development: COVID-19 Indications

The majority of preclinical compounds are under evaluation for SARS-CoV-2/COVID-19 (82/161, 50.9%).

COVID-19 Preclinical Compound/Indications (n=82)

Hit (N=37)

- 6-72-2a
- Anisodamine
- AVI-8053
- Borneol Ester, PROTACs
- CD04872SC
- Epigallocatechin-3-gallate
- H84T-BanLec
- IPB02
- IPB19
- Lycium barbarum glycopeptide
- mCNW330**
- MCULE-5948770040
- MPI5
- MPI8
- MRX-18
- MWAC-3429**
- MXB-4
- MXB-9
- Napthoquinones
- Penciclovir
- Pentosan Polysulfate
- Protegrin-2
- RECCE 529
- RU-0415529
- SACT-Covid19
- Sangivamycin
- Saquinavir
- SARS-CoV-2 PLpro Inhibitor
- SBFM-PL4
- SPIKENET
- Spirooxindole
- SSYA10-001
- TEAR-CoV
- Urtica dioica agglutinin (UDA)
- ViruSAL
- YH-6
- ZINC000000639429

Early Lead (N=23)

- 21i
- AVI-4206**
- C6G25S
- Compound 18**
- D6
- EDDC-2214
- EK1C4
- FBP (frog-defensin-derived basic peptide)
- GRL0617
- MIC1930**
- NBCoV63
- PLpro Inhibitors
- RA-0002112**
- RCYM002
- SBCoV202
- SCR005**
- SCR007**
- Small molecule inhibitor
- STI 4398
- SWC423
- TDI-015051
- Therapeutic interfering particles
- TNX-3500

Late Lead (N=13)

- Jun13296
- 2-Thiouridine
- 3N39v4-Fc (mRNA LNP)**
- AVI-4516**
- AVI-4773**
- AVI-6451**
- Beta-521
- DCOY 102/103
- Jun12682
- LNA ASOs
- ML2006a4
- MVR-V001
- PF-07957472

Potential Candidate (N=9)

- ASAP-0017445
- CDI-873
- COV-X
- MDL-001
- Nanosota-9**
- NV-387-R
- RCYM003
- SY110
- THY-01

*As of January 2026. Archived and Discontinued compound/indications are not included in this summary. **New.

Preclinical Compounds by Stage of Preclinical Development: Non-COVID-19 Indications

For Non-COVID-19 preclinical compounds, Influenza has the highest number under evaluation (18/79, 22.8%).

Non-COVID-19 Preclinical Compound/Indications (n=79)

Hit (N=13)

- MLT202
- SRI-42718
- MMV1791425**
- G202-0362**
- kCOT923**
- 2-propyl-2-adamantanamine
- ALS-1
- spiro[adamantane-2,2'-pyrrolidine
- T-1106 pronucleotides
- Zj6-11
- SSYA10-001
- KCB261770
- SSYA10-001

Early Lead (N=32)

- DHFLV_003B**
- MLT201
- ZXH-2-107**
- ZXH-8-004**
- DHFLV_003B**
- AT-2490**
- DHFLV_003B**
- MLT201
- MWAC-4001**
- DCOY3001 Pan-paramyxovirus
- DCOY 102/103
- NBCoV63
- NBCoV63
- DCOY 102/103
- ASAP-0023152**
- Pan-viral protease inhibitor**
- 4'-Fluorouridine
- Compound 23b
- oral replication inhibitor**
- IY7640
- M355
- MIC1930**
- OA-10
- Ro-3306**
- VTose
- 5-iodo-2-deoxyuridine
- 7-deaza analogs of S-adenosyl methionine
- CMLDBU6128 and improved pyridopyrimidinones
- HPMPDAP (diaminopurine)
- ST357 (TTP-018)
- TTP-6171
- UMM-766

Late Lead (N=21)

- 2-Thiouridine
- ASAP-0029002**
- DV-B-120**
- BSBI-YF
- LRP1–Fc Decoy**
- LRP4–Fc Decoy**
- VLDLR–Fc decoy**
- ASAP-0036543**
- Nanosota-EB1**
- UMM-766**
- 4'-Fluorouridine**
- VIKI-dPEG4-Toco
- VIKI-PEG4-chol
- DS-22-inf-009**
- DS-22-inf-021**
- ING-1466
- UAWJ280
- AVI-4516**
- AVI-4773**
- Compound 21**
- Compound 21**

Potential Candidate (N=13)

- THY-01
- ASAP-0017445
- THY-01
- 4'-Fluorouridine
- 4'-Fluorouridine
- 4'-Fluorouridine
- GHP-88310/(EIDD-3608)
- mCOT466**
- AnQlar
- GHP-88309**
- Nanosota-EB2**
- 4'-Fluorouridine**
- VV251**

Viral Disease (N)

- Dengue
- COVID-19
- MERS-CoV
- Yellow fever
- Lassa fever
- Ebola
- Marburg virus
- Zika
- Hendra virus
- Measles
- Hantavirus
- Mpox
- Hum. Adeno. A-G
- Heartland virus
- Influenza
- Crimean Congo hem fever
- Rift Valley fever
- Smallpox/Other Pox Viruses
- SARS-CoV-1
- Chapare hemorrhagic fever
- Parainfluenza
- West Nile
- Rhinovirus
- Sudan
- Junin virus
- Seasonal coronavirus
- Enterovirus
- Nipah
- Chikungunya
- SFTSV
- Polio

*As of January 2026. Archived and Discontinued compound/indications are not included in this summary. **New.

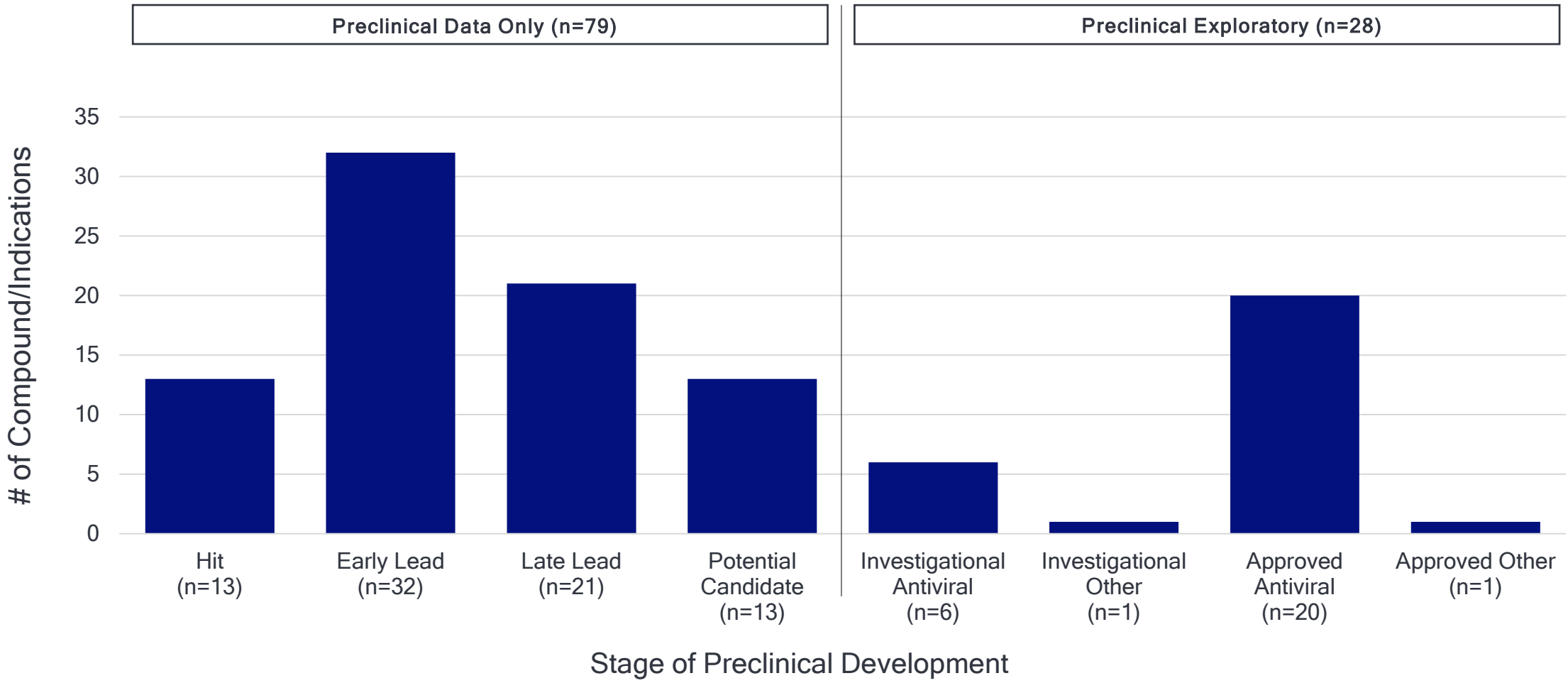
INTREPID Alliance Preclinical Antiviral Landscape (5th Edition): Key Takeaways

- A total of **147 distinct preclinical antiviral compounds** under evaluation for **13 of the 14 priority viral families** associated with emerging viral diseases or having pandemic potential.
  - No preclinical development activity was found for **1** of the 14 viral families (*Peribunyaviridae*).
- There are a total of **161** preclinical evaluations with these compounds across **25** viral disease indications.
  - The majority (82/161, 50.9%) of preclinical compounds are targeting COVID-19.
  - Non-COVID-19 preclinical evaluations are targeting primarily Influenza (22.8%), Dengue (10.1%), mpox and MERS-CoV (each at 8.9%), yellow fever (6.3%), Nipah and SARS-CoV-1 and Zika (each at 5.1%); the remaining 17 indications are each below 4%.
- In view of the 100 Days Mission for Non-COVID-19 indications, **29** distinct compounds (preclinical data only) are at the Late Lead (n=20) or Potential Candidate (n=9) stages across **18** viral indications.
  - **4 with both Potential Candidates and Late Leads**
    - Influenza (n=1 PC, n=4 LL)
    - Dengue (n=1 PC, n=3 LL)
    - MERS-CoV (n=2 PC, n=2 LL)
    - Ebola (n=1 PC, n=1 LL)
  - **8 with only Potential Candidates** (each with 1)
    - Chikungunya, Heartland virus, Junin virus, Lassa fever, Measles, Parainfluenza, SARS-CoV-1, and SFTSV
  - **6 with only Late Leads** (n=11 total)
    - Nipah virus (n=3) and yellow fever (n=4)
    - Enterovirus, Rhinovirus, Smallpox/other pox, and Zika (each with 1 Late Lead)

*As of January 2026. SFTSV: Severe fever with thrombocytopenia syndrome virus.

Preclinical Non-COVID-19 Indications

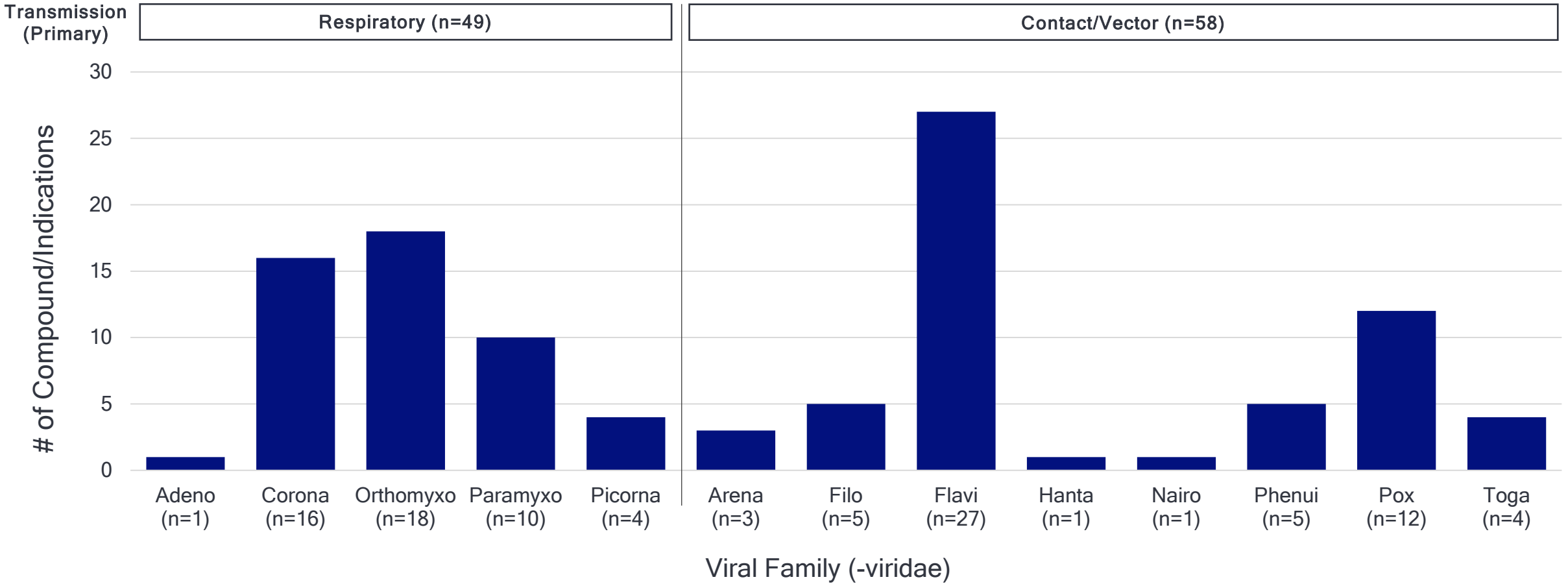
Preclinical Antiviral Evaluations by Stage of Preclinical Development (Non-COVID-19; N=107)*



- Preclinical antiviral evaluations span the various stages of preclinical development.

*As of January 2026.

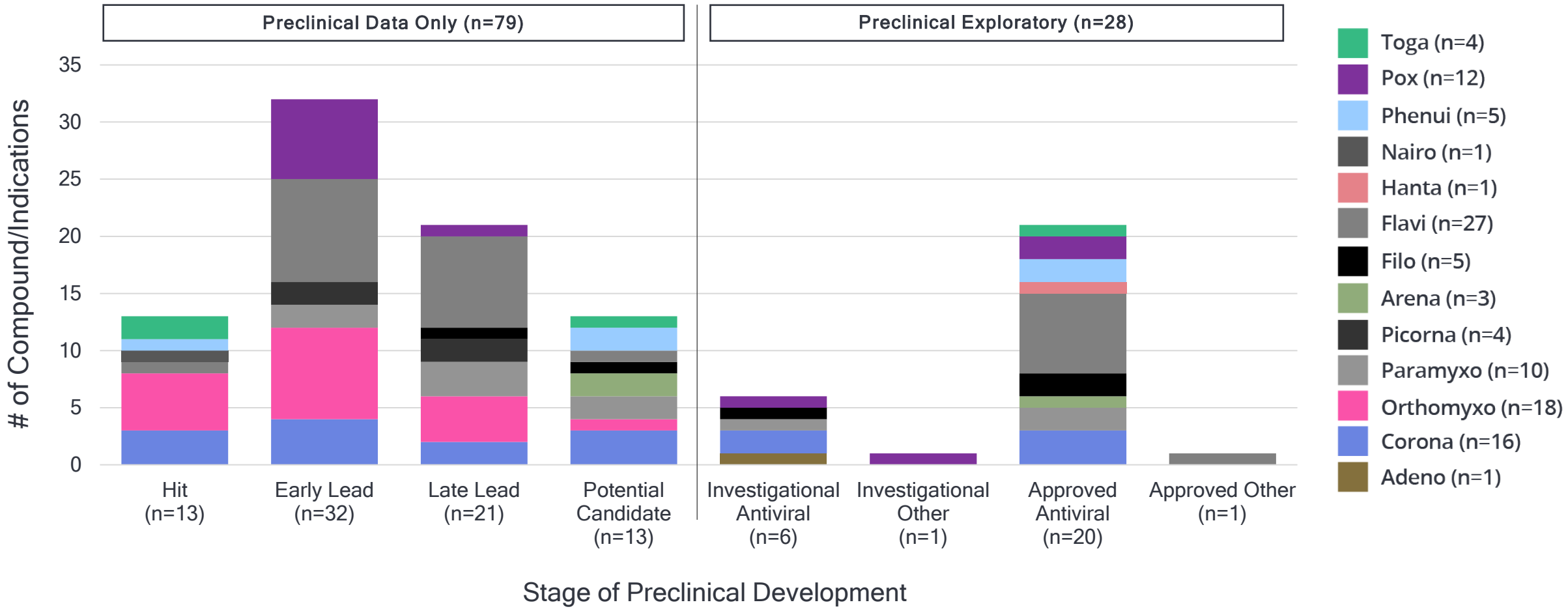
Preclinical Antiviral Evaluations by Viral Family (Non-COVID-19; N=107)*



- Thirteen of the 14 viral families with pandemic potential have preclinical compound/indications.
  - *Peribunyaviridae* has no preclinical evaluations.
- *Flaviviridae* has the most compounds focused on Dengue, West Nile, yellow fever, Zika, and pan-flavivirus.
- Influenza has the most compounds of any single viral disease indication (n=18).

*As of January 2026.

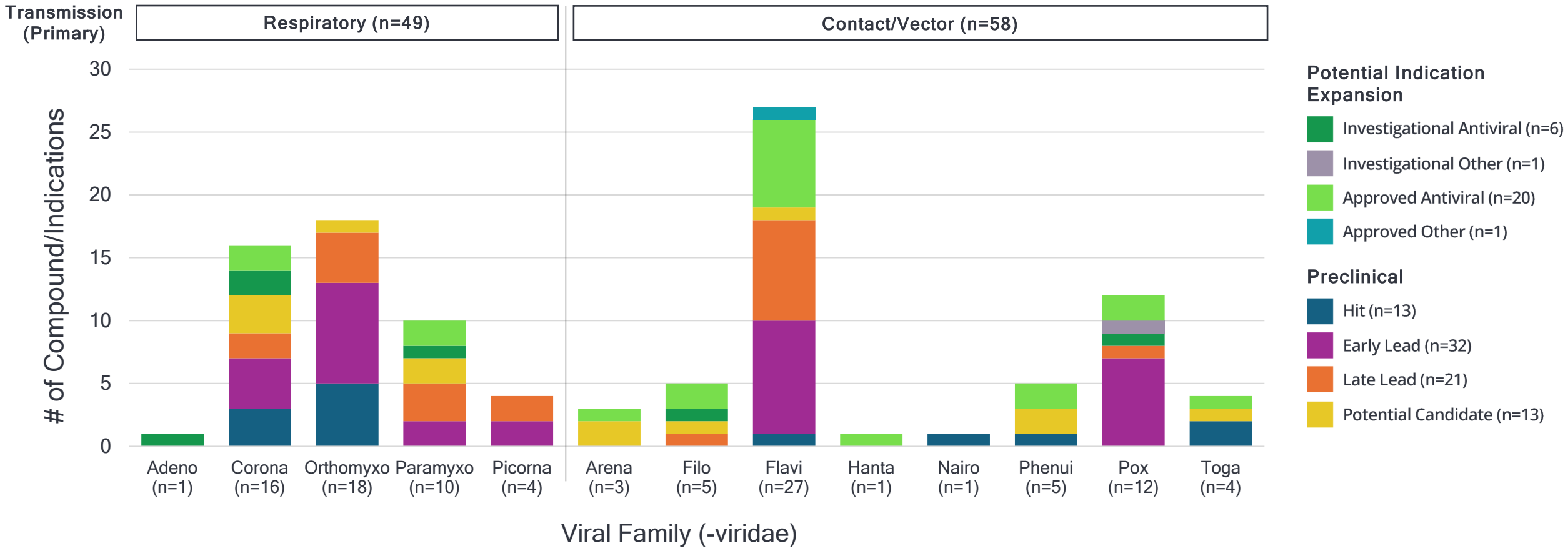
Preclinical Antiviral Evaluations by Stage of Preclinical Development and Viral Family (Non-COVID-19; N=107)*



- Compound/Indications span the various stages of preclinical development.
- Early Lead preclinical phase has the highest number of compounds.
- Approved Antivirals – Indication Expansion Preclinical Exploratory also has a number of compounds.

*As of January 2026.

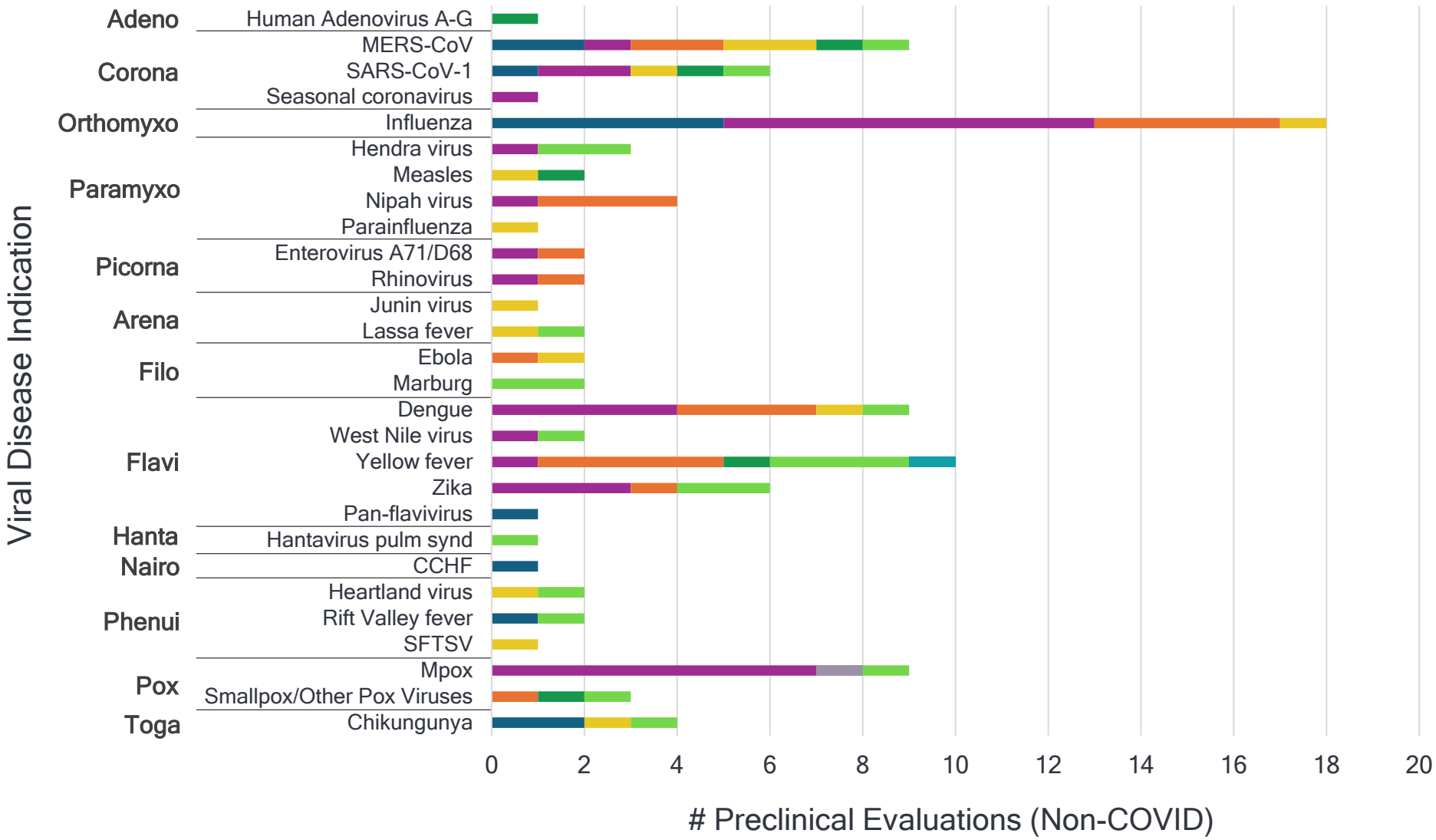
Preclinical Antiviral Evaluations by Viral Family and Stage of Development (Non-COVID-19; N=107)*



- Thirteen of the 14 viral families with pandemic potential have preclinical evaluations.
  - *Peribunyaviridae* has no preclinical evaluations.
- *Flaviviridae* has the most activity across the phases of preclinical development.

*As of January 2026.

Preclinical Antiviral Evaluations by Viral Disease and Stage of Preclinical Development (Non-COVID-19; N=107)*

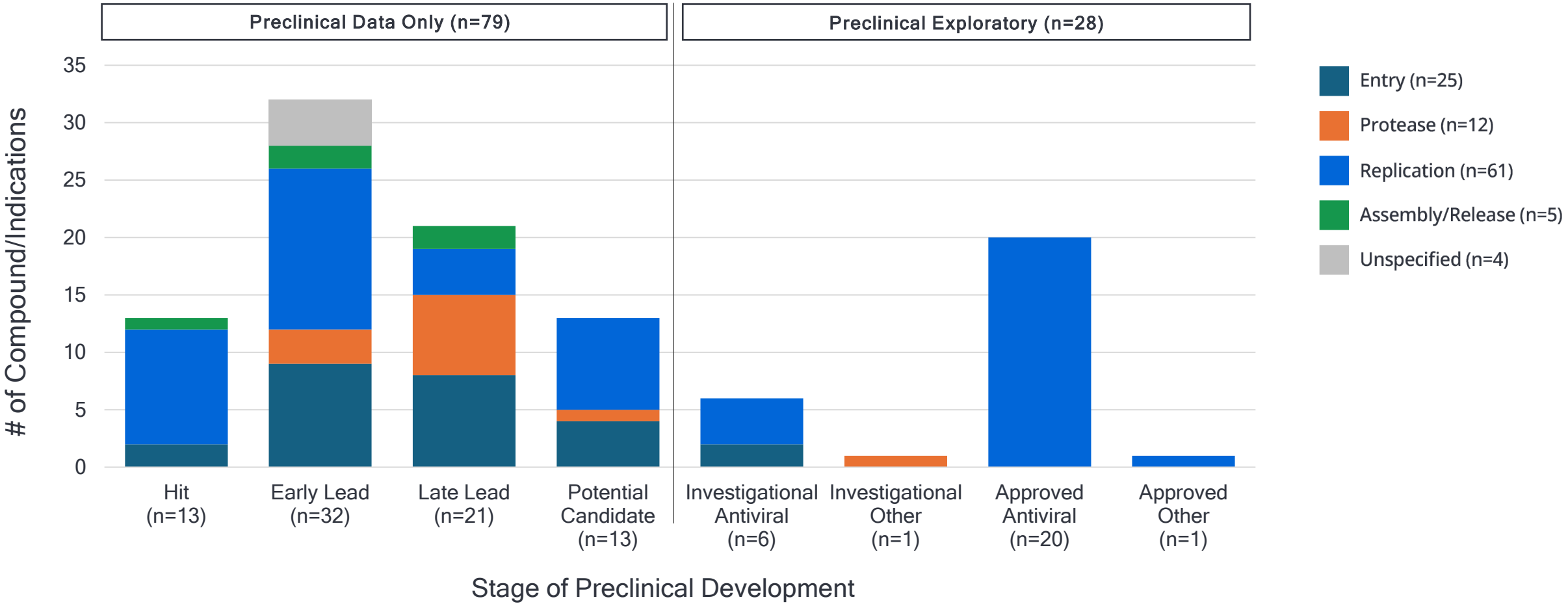


- Preclinical non-COVID-19 evaluations span the various stages of preclinical development.
- Most are focused on Influenza.

*As of January 2026.

INTREPID ALLIANCE

Preclinical Antiviral Evaluations by Stage of Preclinical Development and Mechanism of Action (Non-COVID-19; N=107)*



- Early Lead preclinical phase has the highest number of compounds.
- The highest amount of activity across all phases is with replication inhibitors.
  - 41% (25/61) of these are preclinical exploratory evaluations for potential indication expansions.

*As of January 2026.

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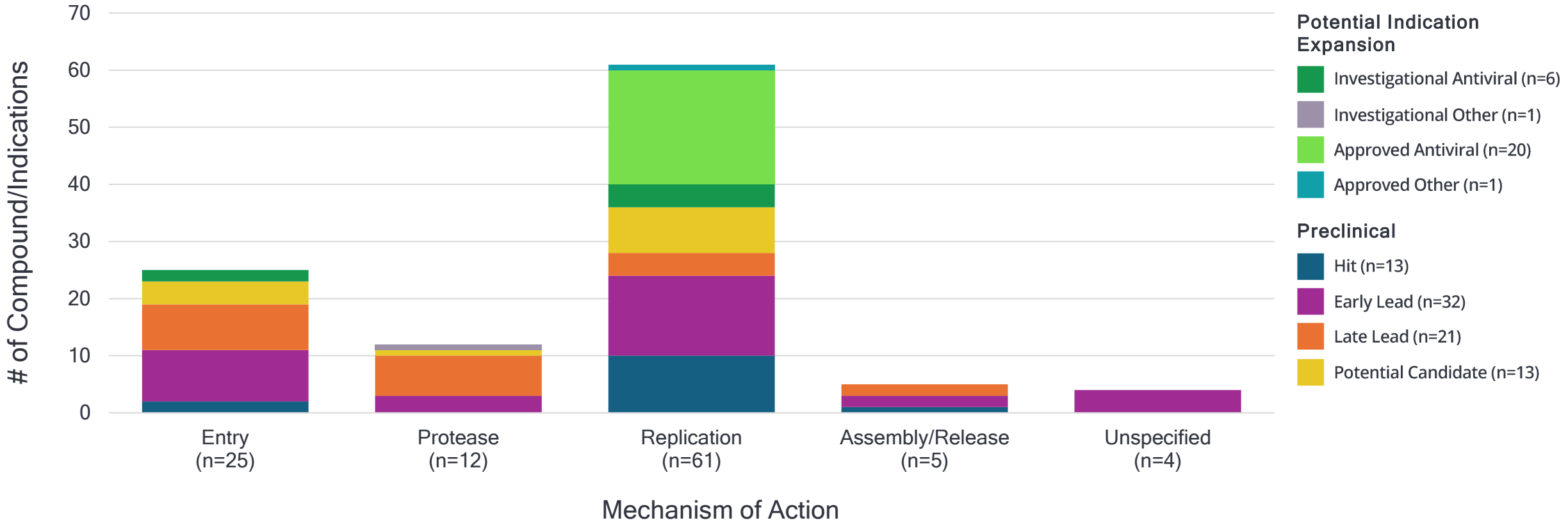
Preclinical Antiviral Evaluations by Mechanism of Action and Stage of Preclinical Development (Non-COVID-19; N=107)*



- The highest amount of activity is with replication inhibitors (61/107, 57%).
  - 41% (25/61) of these are preclinical exploratory evaluations for potential indication expansions.
- Entry and Protease phases of the viral life cycle also have substantive activity.

*As of January 2026.

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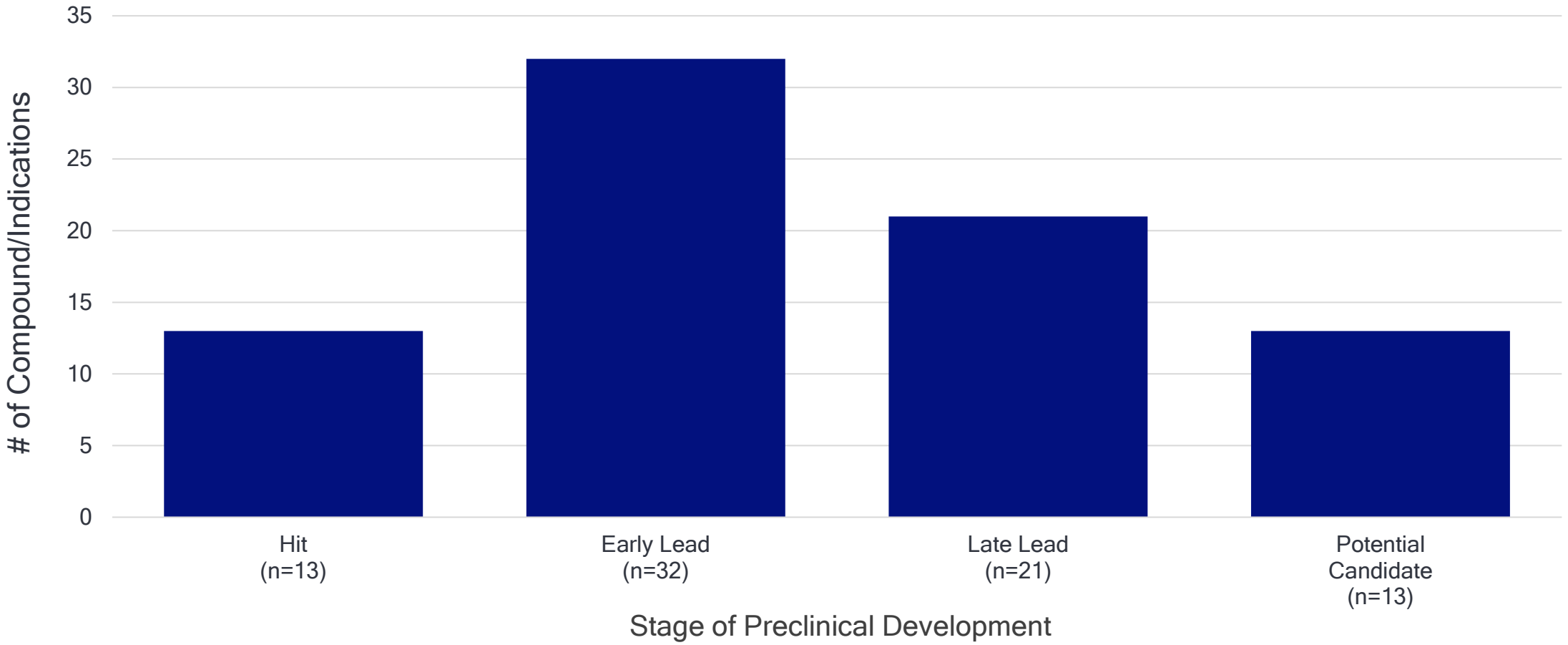
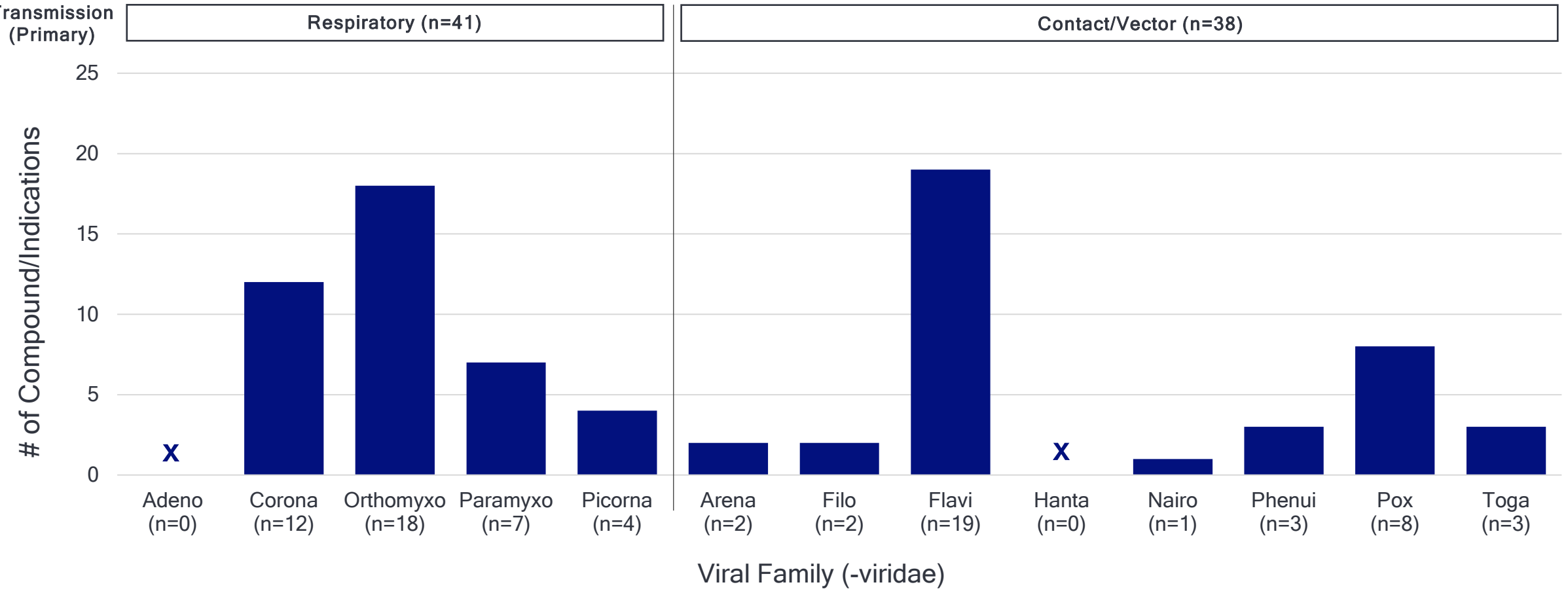
Compounds with Only Preclinical Data by Stage of Preclinical Development (Non-COVID-19; N=79)*



- Preclinical compounds span the various stages of preclinical development.

*As of January 2026.

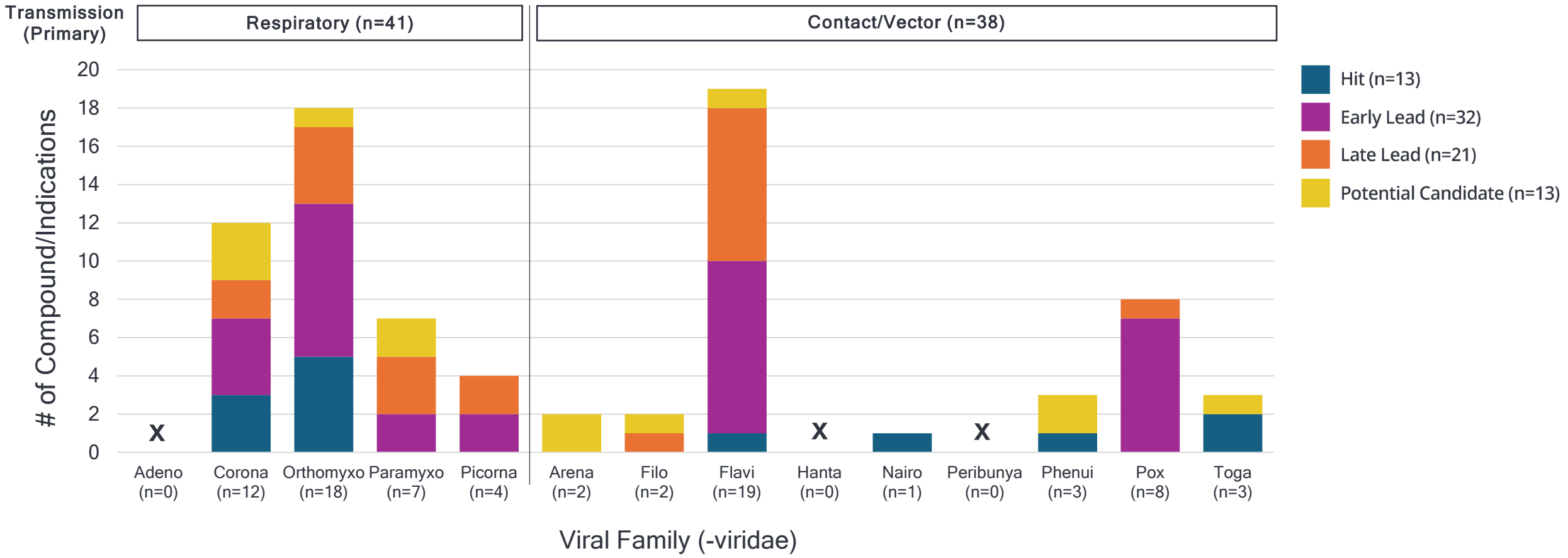
Compounds with Only Preclinical Data by Viral Family (Non-COVID-19; N=79)*



- Eleven of the 14 viral families with pandemic potential have preclinical evaluations.
  - *Peribunyaviridae* has no preclinical evaluations.
- *Flaviviridae* has the most compounds focused on Dengue, West Nile, yellow fever, Zika, and pan-flavivirus.
- Influenza has the most compounds of any single viral disease indication (n=18).

*As of January 2026.

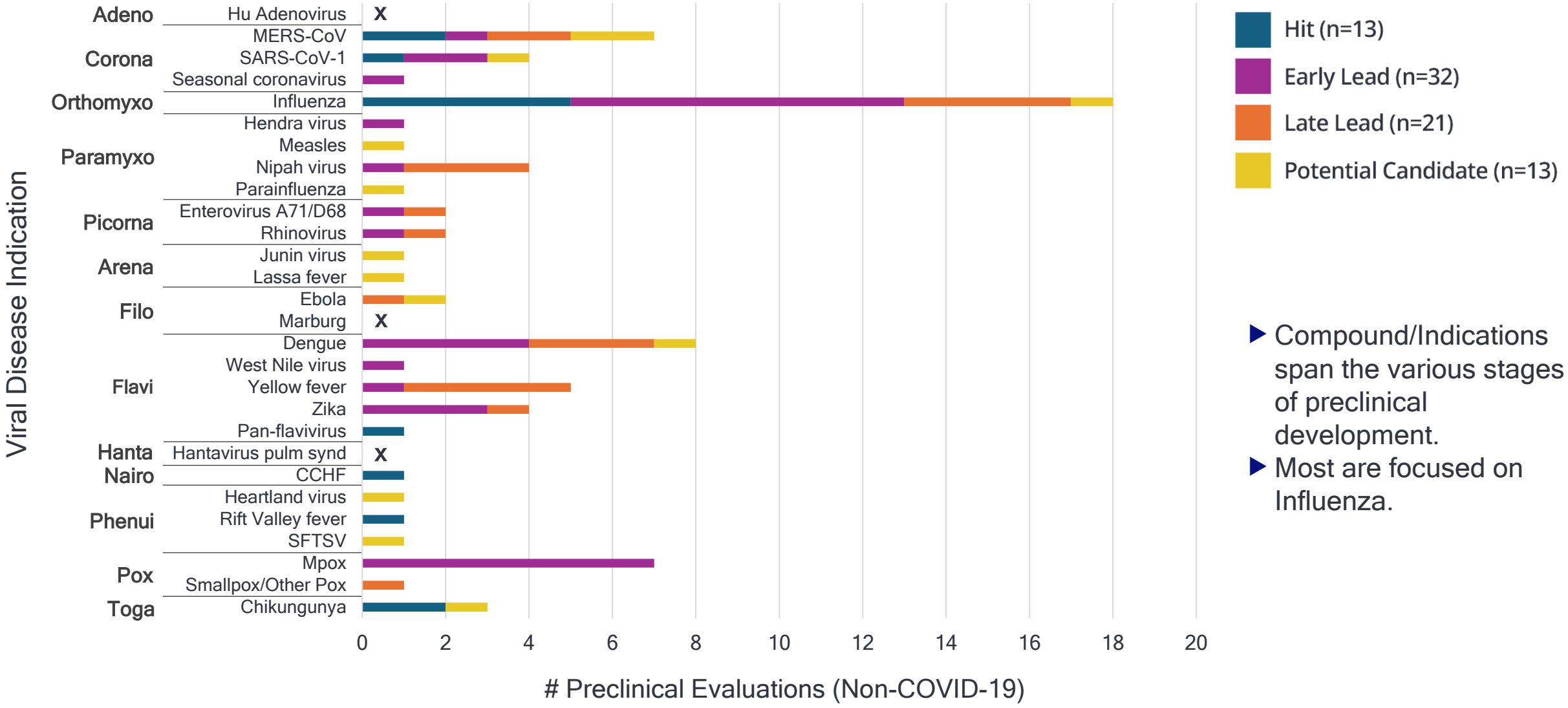
Compounds with Only Preclinical Data by Viral Family and Stage of Development (Non-COVID-19; N=79)*



- Eleven of the 14 viral families with pandemic potential have preclinical compound/indications.
- *Flaviviridae* has the most compounds with activity across the phases of preclinical development.

*As of January 2026.

Compounds with Only Preclinical Data by Viral Disease and Stage of Development (Non-COVID-19; N=79)*

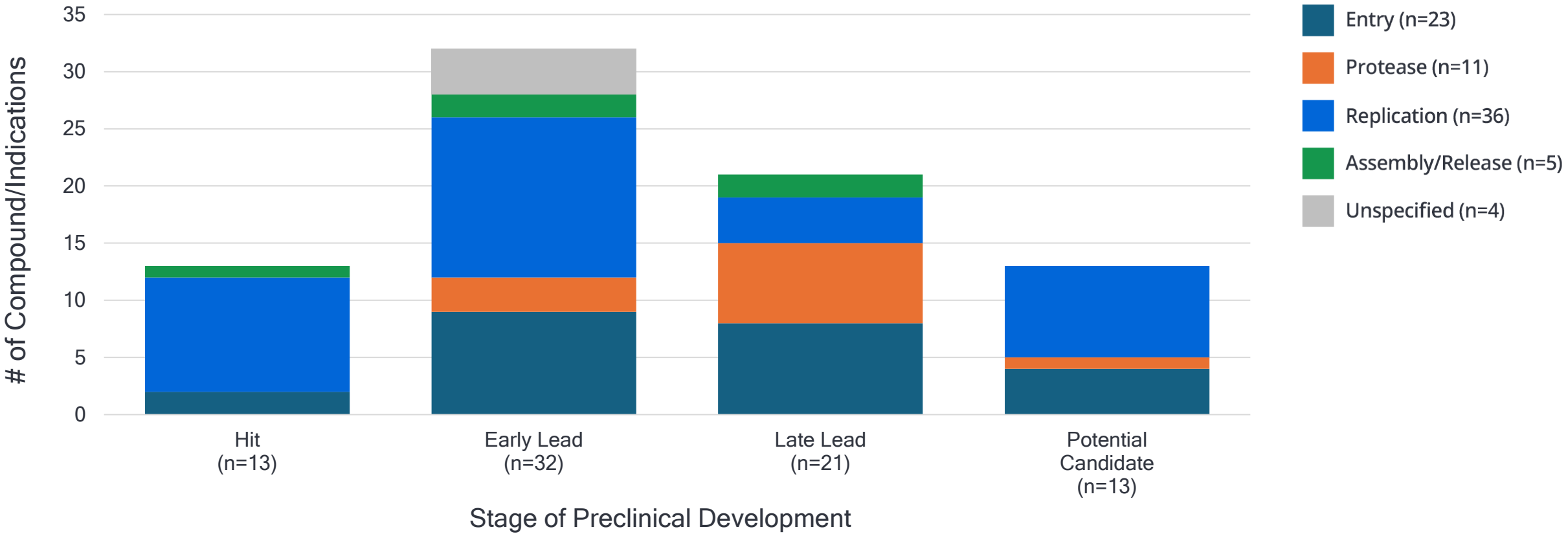


- Compound/Indications span the various stages of preclinical development.
- Most are focused on Influenza.

*As of January 2026.

INTREPID ALLIANCE

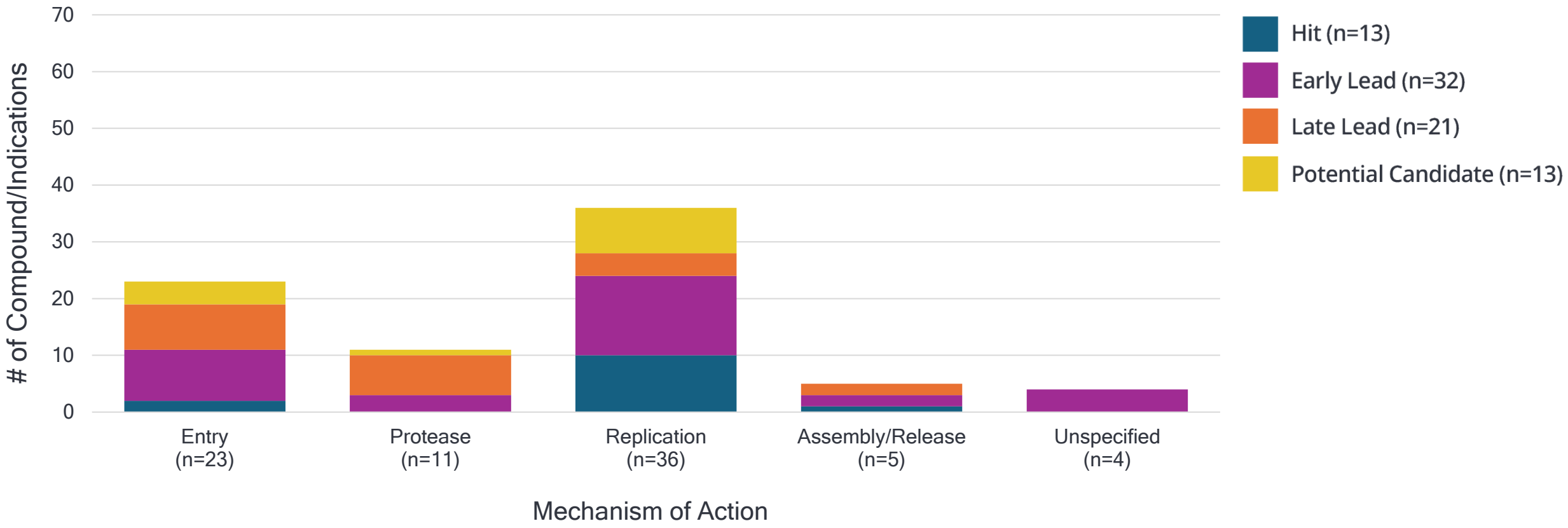
Compounds with Only Preclinical Data by Stage of Development and Mechanism of Action (Non-COVID-19; N=79)*



- Early Lead preclinical phase has the highest number of compounds.
- The highest amount of activity across all phases is with replication inhibitors (45.6%; 36/79).

*As of January 2026.

Compounds with Only Preclinical Data by Mechanism of Action and Stage of Development (Non-COVID-19; N=79)*

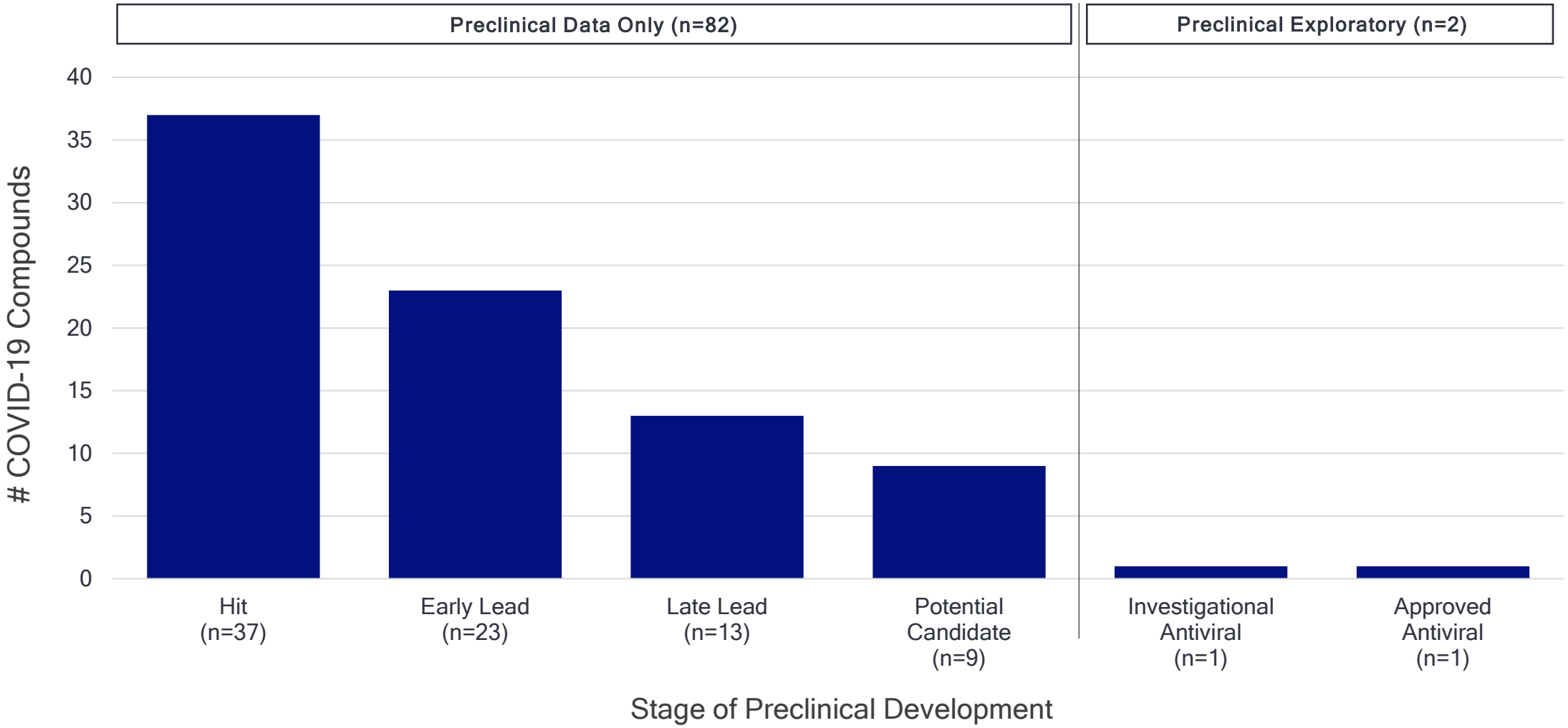


- The highest amount of activity is with replication inhibitors (45.6%; 36/79).
- Entry and Protease phases of the viral life cycle also have substantive activity.

*As of January 2026.

Preclinical COVID-19 Indications

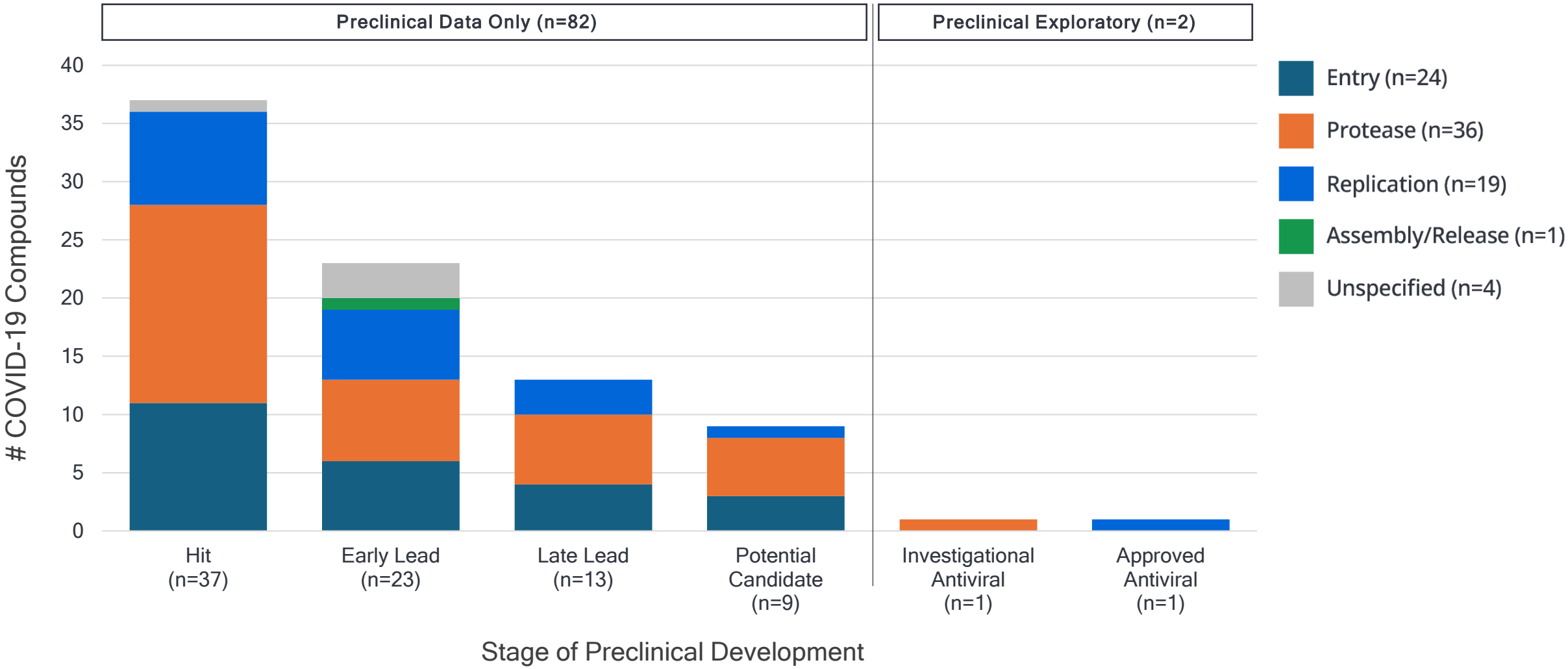
COVID-19 Compounds by Stage of Preclinical Development (N=84)*



*As of January 2026.

INTREPID ALLIANCE

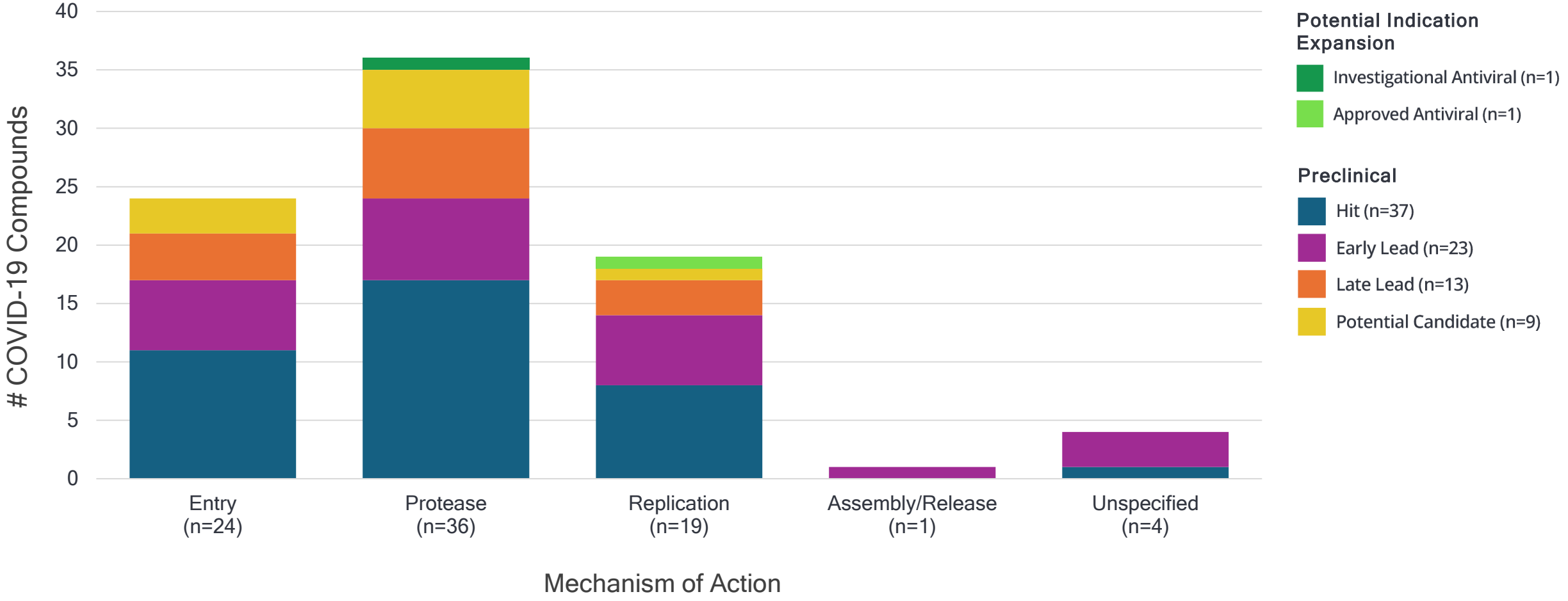
COVID-19 Compounds by Stage of Preclinical Development and Mechanism of Action (N=84)*



*As of January 2026.

INTREPID ALLIANCE

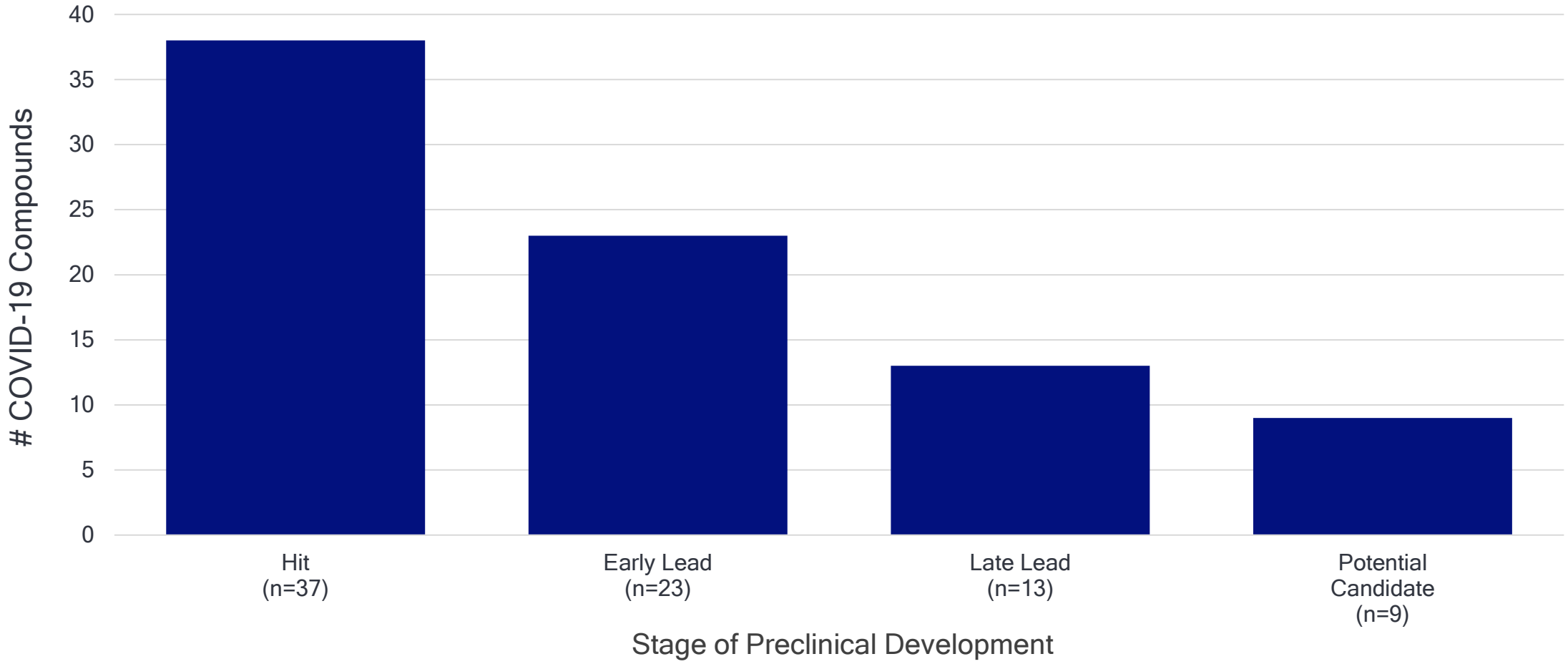
COVID-19 Compounds by Mechanism of Action and Stage of Preclinical Development (N=84)*



*As of January 2026.

INTREPID ALLIANCE

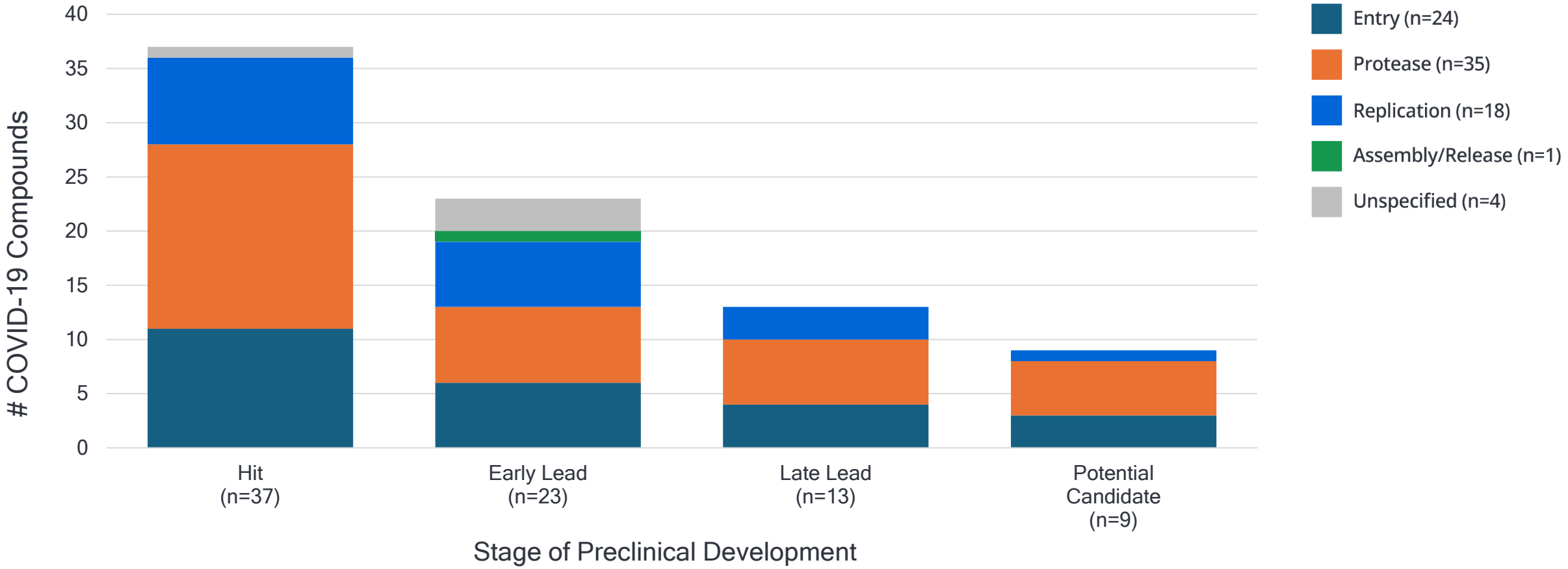
COVID-19 Compounds with Only Preclinical Data by Stage of Development (N=82)*



*As of January 2026.

INTREPID ALLIANCE

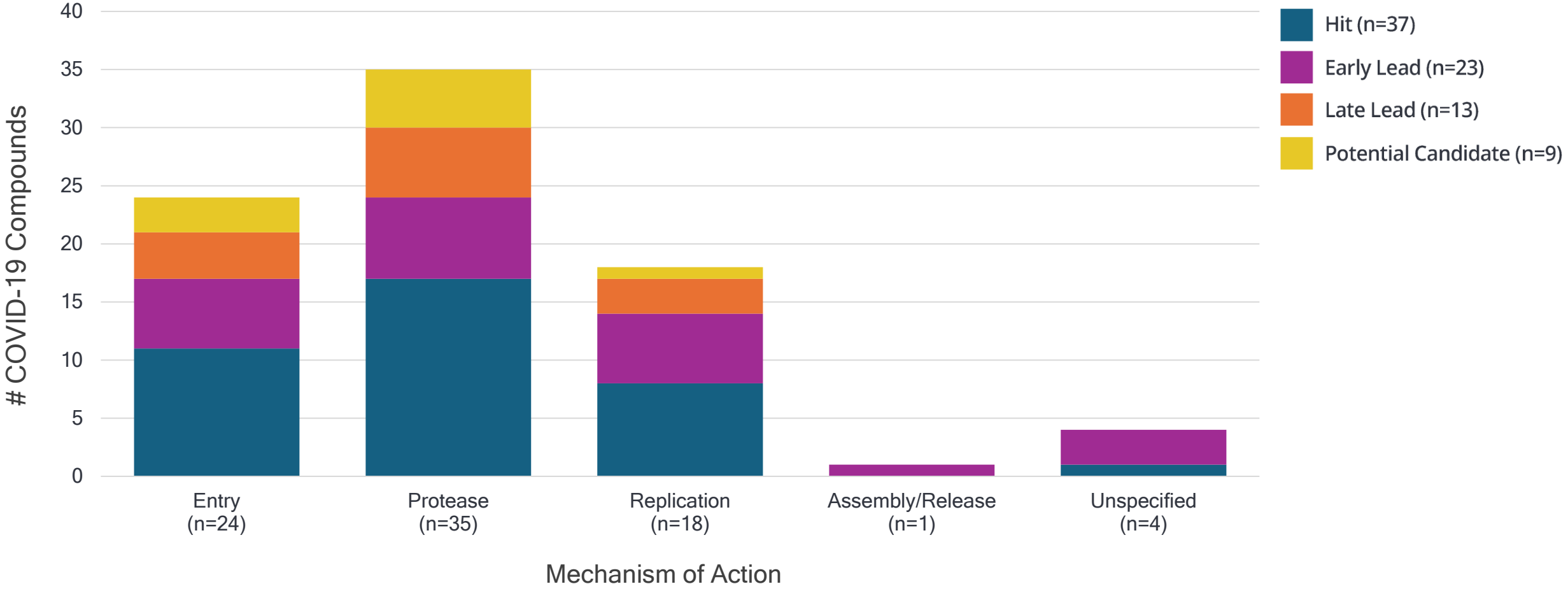
COVID-19 Compounds with Only Preclinical Data by Stage of Development and Mechanism of Action (N=82)*



*As of January 2026.

INTREPID ALLIANCE

COVID-19 Compounds with Only Preclinical Data by Mechanism of Action and Stage of Development (N=82)*



*As of January 2026.

INTREPID ALLIANCE

Preclinical Antiviral R&D Program Leadership

Preclinical Antiviral R&D Program Leads*

- Biotech/Pharma (29%) and Research Institutes (71%) represent the antiviral R&D program leads for 161 preclinical compound/indications.
  - As programs move towards Potential Candidate, the relative contribution of antiviral R&D leads shifts more towards Biotech/Pharma. This is consistent with the increased resources needed to prepare for regulatory submissions and entry into clinical development.
- Antiviral R&D program leads for preclinical antiviral compound/indications are located in 29 countries across 5 of the 6 WHO-Regions.
  - The majority (86.1%) are located in countries with high-income economies.
  - The remainder are those with upper-middle income (12.3%) or lower-middle income (1.6%) economies.
- The United States (WHO Americas; High income) and China (WHO Western Pacific; Upper-middle income) have the most representation at 58.2% and 11.2%, respectively.

*As of January 2026; Includes preclinical compounds categorized as Hit, Early Lead, Late Lead, or Potential Candidate.
Research Institute: university, government- sponsored entity, contract research organization.

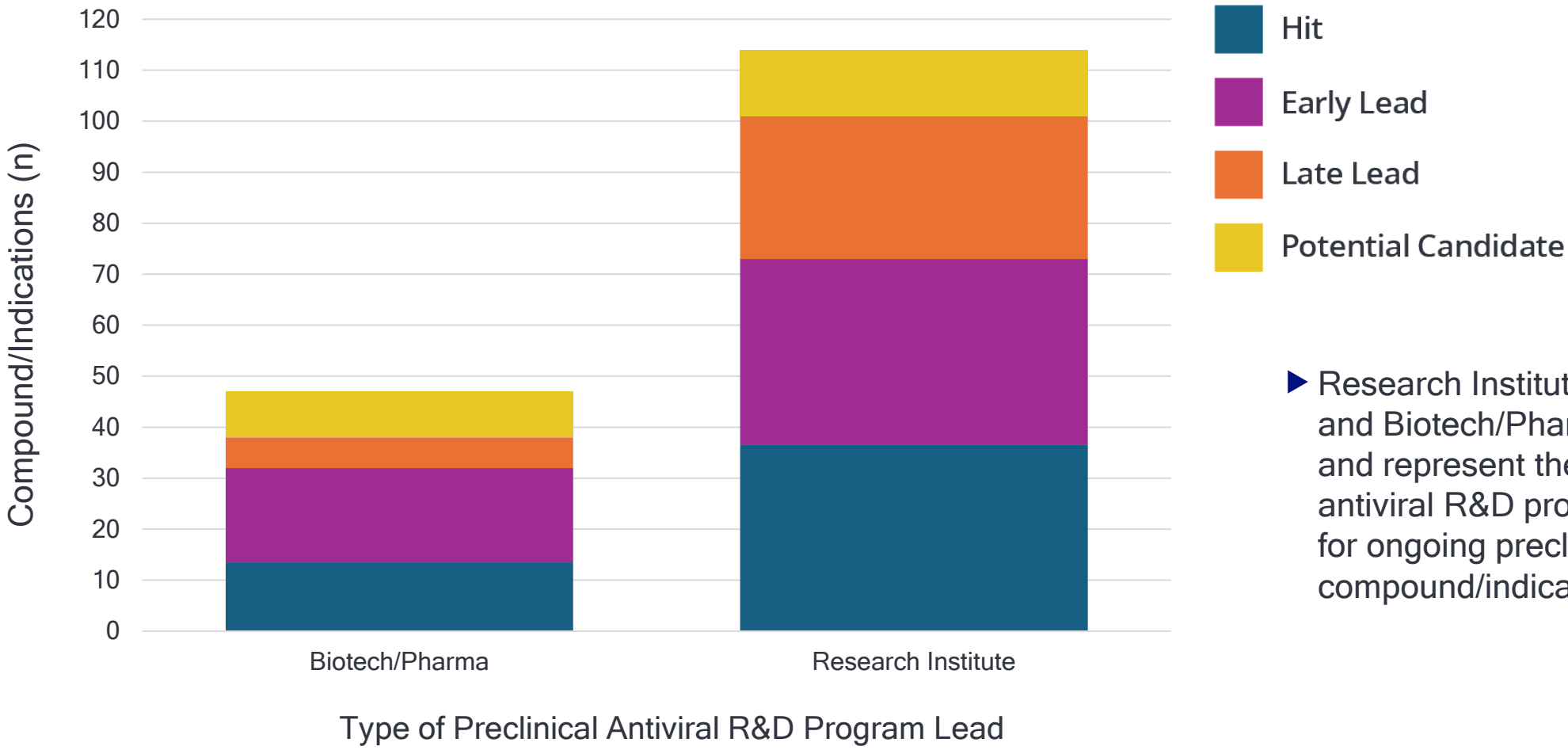
Diverse Representation of Preclinical Antiviral R&D Program Leads*

Stage of Development		Type of Preclinical Antiviral R&D Program Lead		
		Total	Biotech/Pharma	Research Institute
Preclinical (Hits, Early & Late Leads, and Potential Candidates)	#	**161**	**47**	**114**
	%		*29*	*71*

- Some clinical antiviral R&D program leads are involved with >1 distinct antiviral compound or indication.
- Consistent with the wider drug discovery efforts to identify hits and attempt to progress them to the stage of a clinical candidate, as well as accounting for attrition, Research Institutes lead 71% and Biotech/Pharma 29% of the preclinical efforts.
- The clinical antiviral R&D program leads are based in 29 different countries
  - 7 of these also have representation in the clinical antiviral landscape for Promising and Watch & Wait compounds.
- Excludes Approved, Indication Expansions, Archived, and Discontinued.

*As of January 2026. Research Institute: university, government- sponsored entity, contract research organization.

Preclinical Antiviral Compound/Indications by R&D Program Leads (N=161)*

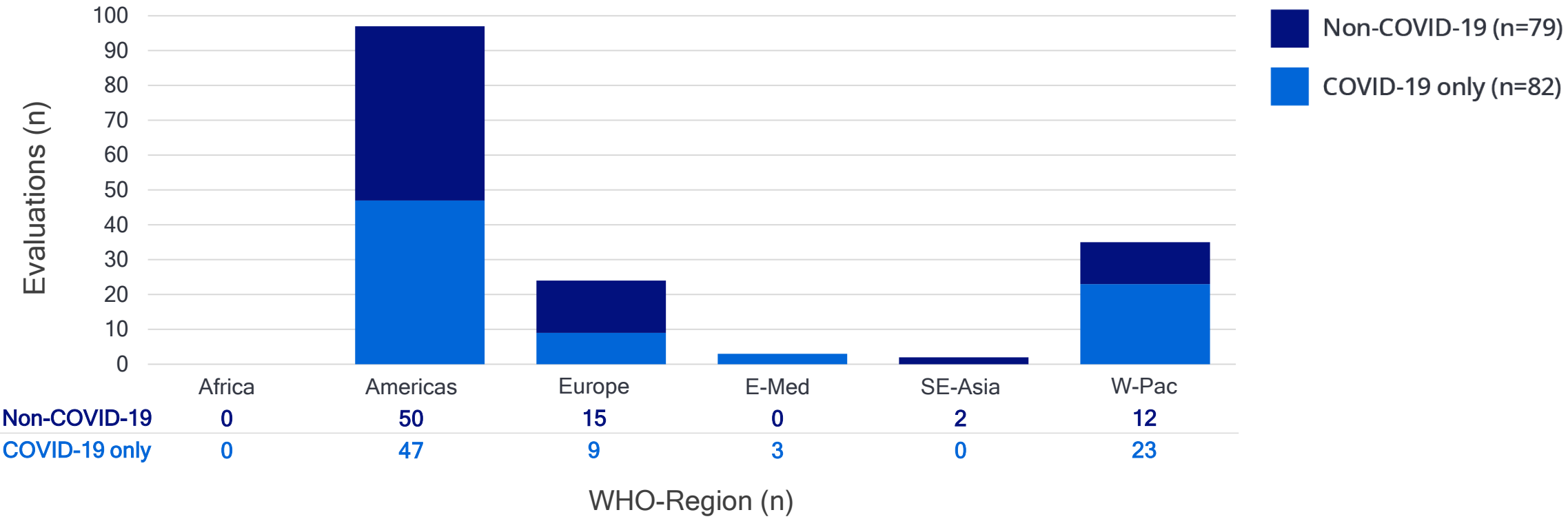


- Research Institutes (**71%**) and Biotech/Pharma (**29%**) and represent the majority of antiviral R&D program leads for ongoing preclinical compound/indications.

*As of January 2026; Includes preclinical compounds categorized as Hit, Early Lead, Late Lead, or Potential Candidate.
Research Institute: university, government- sponsored entity, contract research organization.

Preclinical Antiviral Compound/Indications by R&D Program Lead WHO-Region*

(COVID-19 only and Non-COVID-19; N=161)

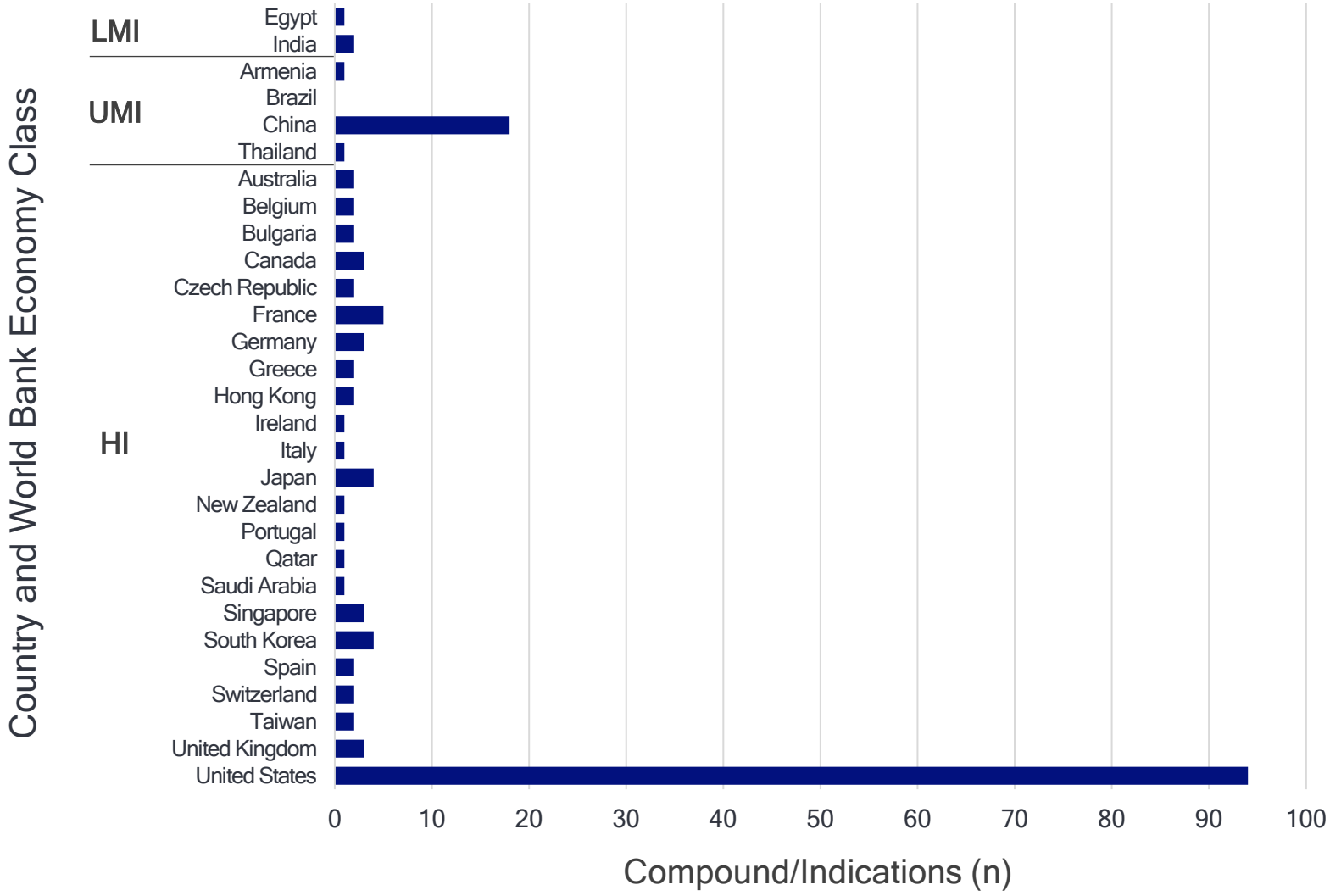


	Africa	Americas	Europe	E-Med	SE-Asia	W-Pac
Non-COVID-19	0	50	15	0	2	12
COVID-19 only	0	47	9	3	0	23

- There has been a 1.5-fold increase in Non-COVID-19 preclinical evaluations since last edition.
  - COVID-19-specific: 82 have involvement from 4 of the 6 WHO-Regions.
  - Non-COVID-19-specific: 79 from 4 of 6 WHO-Regions.
- The Americas and Western Pacific regions are primarily driven by the United States and China.

*As of January 2026; Includes preclinical compounds categorized as Hit, Early Lead, Late Lead, or Potential Candidate.

Preclinical Antiviral Compound/Indications* by Country and World Bank Economy Class**



- The majority (**86%**) of preclinical R&D leads are located in countries with high-income economies.
  - The remainder are those with upper-middle income (**12%**) or lower-middle income (**2%**) economies.
- The United States (HI) and China (UMI) have the most representation across the **29** countries.

*As of January 2026; Includes preclinical compounds categorized as Hit, Early Lead, Late Lead, or Potential Candidate.
**World Bank country classifications by income level for 2024-2025. LMI: lower-middle income; UMI: upper-middle income; HI: high-income.

INTREPID ALLIANCE

Supplemental Information

New Additions to the Antiviral Clinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds added since 4th Edition (15 of 23)

Virus Family	Indication	Compound	Stage of Development	Antiviral R&D Program Lead(s)	Type	Location
Coronaviridae	COVID-19	Apo-Si-K170A-C76	Watch & Wait Phase 1	Interna Therapeutics Ltd.	Biotech/Pharma	Israel
		CMX990	Watch & Wait Phase 1	AViDD - CAMPP	University	United States
		Daclatasvir	App AV-IE Preclin Exp	Oswaldo Cruz Foundation (Fiocruz)	Research Institute	Brazil
		HL-21	Watch & Wait Phase 2	Champion Pharmaceutics	Biotech/Pharma	China
		Ratutrelvir	Watch & Wait Phase 2	Traws Pharma	Biotech/Pharma	United States
Orthomyxoviridae	Influenza	Deunoxavir Marboxil	Promising Phase 3	AnDiConBio	Biotech/Pharma	China
		EV25	Promising Phase 2	Eradivir	Biotech/Pharma	United States
		Triazavirin	Approved ONA	Medsintez Pharmaceutical	Biotech/Pharma	Russia
		WXSH-0208	Promising Phase 2	Cisen Pharmaceutical	Biotech/Pharma	China
Filoviridae	Sudan	Obeldesivir	Inv AV-IE Phase 2	Gilead Sciences	Biotech/Pharma	United States
Flaviviridae	Dengue	Molnupiravir[a]	App AV-IE Phase 2	Oxford University Clinical Research Unit (OUCRU)	University	United Kingdom
	West Nile	Etravirine	App AV-IE Preclin Exp	Naval Medical University	University	China
	Yellow fever	Favipiravir/6-MMPr	App AV-IE Preclin Exp	Utah State University	University	United States
		TRIAC	App Other-IE Preclin Exp	Naval Medical University	University	China
	Zika	Sofosbuvir	App AV-IE Preclin Exp	Gilead Sciences	Biotech/Pharma	United States

[a]Investigator-initiated study in clinics in Vietnam.

*As of January 2026; not included in prior landscape editions.

New Additions to the Antiviral Clinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds added since 4th Edition (remaining 8 of 23)

Virus Family	Indication	Compound	Stage of Development	Antiviral R&D Program Lead(s)	Type	Location
Paramyxoviridae	Nipah	Favipiravir	App AV-IE Comp. Use	FUJIFILM Toyama Chemical	Biotech/Pharma	Japan
Phenuiviridae	Heartland virus	Favipiravir	App AV-IE Preclin Exp	FUJIFILM Toyama Chemical	Biotech/Pharma	Japan
	Rift Valley fever		App AV-IE Preclin Exp			
	SFTSV		Approved SA (Japan only)			
Poxviridae	Mpox	Aloxistatin[a]	Inv Other-IE Preclin Exp	University Hospital Freiburg, Capital Medical University	University	Germany, China
		Brincidofovir (Oral)	App AV-IE Phase 3	Emergent BioSolutions	Biotech/Pharma	United States
		Trifluridine[b]	App AV-IE Phase 2	Sandoz provided drug; Mayo Clinic, Texas A&M University, National Center for Global Health and Medicine, Goethe University Frankfurt	Biotech/Pharma; University	United States; United States, Japan, Germany
Togaviridae	CHIKV	Etravirine	App AV-IE Preclin Exp	Naval Medical University	University	China

[a] *In vitro* study by academic group; [b] Investigator-initiated study.

*As of January 2026; not included in prior landscape editions. STSFV: Severe fever with thrombocytopenia syndrome virus; CHIKV: Chikungunya.

Changes in Antiviral Clinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds that advanced in development or are now archived or discontinued

Virus Family	Indication	Compound	Prior Clinical Status	5th Edition Status
Coronaviridae	COVID-19	Amantadine	App AV-IE (Ph3)	D/C
		Ibuzatrelvir	Promising (Ph2)	Promising (Ph3)
		P315V	Preclinical Potential Candidate	Watch & Wait (Ph2)
Orthomyxoviridae	Influenza	CD388	Promising (Ph2)	Promising (Ph3)
		Onradivir (ZSP 1273)	Promising (Ph3)	Approved O.N.A.
		Pixavir marboxil (TG-1000)	Promising (Ph3)	Approved O.N.A.
		Seloxavir marboxil (ZX-7101A)	Promising (Ph3)	Approved O.N.A.
		VNT-101	Preclinical Potential Candidate	Watch & Wait (Ph1)
Filoviridae	Ebola	Obeldesivir (GS-5245)	Inv AV-IE Preclinical Exploratory	Inv AV-IE (Ph2)
	Marburg		Inv AV-IE Preclinical Exploratory	Inv AV-IE (Ph2)
Flaviviridae	Yellow fever	AT-752	Inv AV-IE Preclinical Exploratory	Archived
Nairoviridae	CCHF	Remdesivir	App AV-IE Preclinical Exploratory	Archived
Paramyxoviridae	Nipah	Remdesivir	App AV-IE Preclinical Exploratory	App AV-IE Comp. Use
Poxviridae	Mpox	NV-387	Inv AV-IE (Ph1)	Inv AV-IE (Ph2)

- 3 compounds achieved regulatory approval for influenza.
- 2 preclinical compounds advanced into clinical development: COVID-19 & Influenza.

*As of January 2026. App AV-IE: approved antiviral-indication expansion;
Inv AV-IE: investigational antiviral-IE; D/C: Discontinued; O.N.A.: other national authority.

14 Compounds Approved by a Stringent Regulatory Authority (S.A.)*

COVID-19 (n=4), Influenza (n=8), SFTSV (n=1), Mpox (n=1), Smallpox/Other Poxviruses (n=2)

Compound	Antiviral R&D Program Lead(s)	Mechanism/Target
COVID-19		
Ensitrelvir	Shionogi,Ildong	Protease - 3CL pro
Molnupiravir	Merck & Co./Merck Sharp & Dohme (MSD), Ridgeback Biotherapeutics	Replication - RdRp
Nirmatrelvir/ritonavir	Pfizer	Protease - 3CL pro
Remdesivir	Gilead Sciences	Replication - RdRp
INFLUENZA		
Amantadine	Novartis	Entry - Proton Channel M2
Baloxavir Marboxil	Shionogi, Roche	Replication - Endonuclease
Favipiravir**	FUJIFILM Toyama Chemical	Replication - RdRp
Laninamivir	Daiichi Sankyo	Assembly/Release - NA
Oseltamivir	Roche	Assembly/Release - NA
Peramivir	BioCryst Pharmaceuticals	Assembly/Release - NA
Rimantadine	Allergan	Entry - Proton Channel M2
Zanamivir	GlaxoSmithKline (GSK)	Assembly/Release - NA
Severe fever with thrombocytopenia syndrome virus (SFTSV)		
Favipiravir (Japan only)	FUJIFILM Toyama Chemical	Replication - RdRp
MPOX		
Tecovirimat (EU only)	Emergent BioSolutions	Replication - DNA Polymerase
SMALLPOX/OTHER POX VIRUSES		
Brincidofovir (US only)	Emergent BioSolutions	Replication - DNA Polymerase
Tecovirimat	Siga Technologies	Assembly/Release - VP37

*As of January 2026; WHO-defined Stringent Authority (https://www.who.int/publications/m/item/list-of-transitional-wlas);
**Favipiravir has 2 S.A. approvals and also 1 O.N.A. approval; ***Zanamivir also has Dengue study via Investigator Sponsored Study.

12 Compounds Approved by Other National Authority (O.N.A.)*

COVID-19 (n=5), Influenza (n=3), COVID-19 & Influenza (n=3), Smallpox/Other Poxviruses (n=1)

Compound	Antiviral R&D Program Lead(s)	Mechanism/Target
COVID-19		
Azvudine	HeNan Sincere Biotech, Zhengzhou Granlen PharmaTech, Genuine Biotech, Fosun Pharma	Replication - RdRp
Favipiravir**	Promomed,R-Pharm	Replication - RdRp
Leritrelvir (RAY1216)	Guangdong Zhongsheng Pharmaceutical	Protease - 3CL pro
Mindeudesivir (VV116)	Shanghai Junshi Biosciences	Replication - RdRp
Simnotrelvir/ritonavir	Simcere Pharmaceutical, Shanghai Institute of Materia Medica (SIMM), Jiangsu Simcere Pharmaceutical	Protease - 3CL pro
INFLUENZA		
Onradivir (ZSP1273)	Raynovent	Replication - PB2
Pixavir marboxil (TG-1000)	TaiGen Biotechnology	Replication - PA
Seloxavir Marboxil (ZX-7101A)	Nanjing Zenshine Pharmaceuticals	Replication - PA
COVID-19 & INFLUENZA		
Enisamium (VR17-04)	Farmak	Replication - RdRp
Triazavirin	Medsintez Pharmaceutical	Replication - RdRp
Umifenovir	Pharmstandard	Entry - Fusion
SMALLPOX/OTHER POX VIRUSES		
NIOCH-14	Vector Center	Assembly/Release

*As of January 2026; WHO-defined Other National Authority (https://www.who.int/publications/m/item/list-of-transitional-wlas);
**Favipiravir has 1 O.N.A approval and also has 2 S.A. approvals.

12 “Promising” Novel Clinical Antiviral Compounds*

COVID-19 (n=6), Influenza (n=5), Polio (n=1)

Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target	Phase of Development
COVID-19	EDP-235	Enanta Pharmaceuticals	U.S.	Protease - 3CL pro	2
	GST-HG171/ritonavir	Fujian Cosunter Pharmaceutical	China	Protease - 3CL pro	3
	Ibuzatrelvir	Pfizer	U.S.	Protease - 3CL pro	2
	Olgotrelvir (STI-1558)	Sorrento Therapeutics	U.S.	Protease - 3CL pro	3
	QLS1128	Qilu Pharmaceutical	China	Protease - 3CL pro	3
	SHEN26	Kexing Biopharm	China	Replication - RdRp	2
Influenza	CD388	Merck (formerly with Cidara Therapeutics)	U.S.	Entry - Fc Drug Conjugate	3
	Deunoxavir Marboxil (ADC-189)**	AnDiConBio	China	Replication - PA	3
	EV25**	Eradivir	U.S.	Assembly/Release	2
	Suraxavir Marboxil (GP681)	Jiangxi Qingfeng Pharmaceutical	China	Replication - Endonuclease	3
	WXSH-0208**	Cisen Pharmaceutical	China	Replication - PA	2
Polio	Imocitrelvir (V-7404)	ViroDefense, Pfizer	U.S.	Protease - EV 3C pro	1

- 3 new additions (**): Deunoxavir Marboxil (ADC-189), EV25, and WXSH-0208.
- 3 compounds moved from Promising to Approved O.N.A.: Onradivir (ZSP1273), Pixavir Marboxil (TG-1000), and Seloxavir Marboxil (ZX-7101A).

*As of January 2026.

“Watch & Wait” Novel Clinical Antiviral Compounds (N=21 of 34)*

COVID-19 (n=21)

Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target	Phase of Development
COVID-19	ALG-097558	Aligos Therapeutics	U.S.	Protease - 3CL pro	1
	Apo-Si-K170A-C76**	Interna Therapeutics Ltd.	Israel	Replicaiton - RNAi	1
	ASC11/Ritonavir	Ascletis Pharma	China	Protease - 3CL pro	1
	CDI-988	CoCrystal Pharma	U.S.	Protease - 3CL pro	1
	CMX990**	AViDD CAMPP	U.S.	Protease - 3CL pro	1
	Delcetravir	Esfam Biotech	Australia	Entry - Attachment	1
	FB2001	Frontier Biotechnologies	China	Protease - 3CL pro	3
	GS-00202	Gusen Pharma	China	Protease - 3CL pro	1
	HL-21**	Champion Pharmaceutics	China	Protease	2
	HS 10517/Ritonavir	AbbVie, Gilead Sciences, Jiangsu Hansoh Pharmaceutical	U.S., U.S., China	Protease - 3CL pro	2
	HY3000	Hybio Pharmaceutical (formerly Hanyu Pharmaceutical)	China	Entry - Fusion	1
	IPD-52520	IAVI	U.S.	Entry	1
	ISM3312	Insilico Medicine	Hong Kong	Protease - 3CL pro	1
	Limnetrelvir (ABBV 903)	AbbVie	U.S.	Protease - 3CL pro	1
	NV-387	NanoViricides	U.S.	Entry - Attachment	1
	P315V3**	Institute of Microbiology of the Chinese Academy of Sciences	China	Entry - Fusion	2
	Ratutrelvir**	Traws Pharma	U.S.	Protease - 3CL pro	2
	RQ-01	Red Queen Therapeutics	U.S.	Entry	1
	S-892216	Shionogi	Japan	Protease - 3CL pro	1
	WPV01	Westlake University	China	Protease - 3CL pro	3
	YKYY017	Yuekang Pharmaceutical	China	Entry - Fusion	3

*As of January 2026. **4 new additions not previously in landscape and 1 new addition moved from Preclinical Potential Candidate.

“Watch & Wait” Novel Clinical Antiviral Compounds (N=13 of 34)*

Influenza (n=5), Dengue and Lassa fever (each with n=2), and Chapare hemorrhagic fever, Mpox, Polio, and Rhinovirus (each with n=1)

Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target	Phase of Development
Influenza	AV5080	Viriom	Russia	Assembly/Release - NA	2
	CC-42344	CoCrystal Pharma	U.S.	Replication - Flu A Pol	2
	HNC042	Guangzhou Henovcom Bioscience Co. Ltd.	China	Assembly/Release - NA	2
	Tivoxavir marboxil (TRX100)	Traws Pharma	U.S.	Replication - Endonuclease	1
	VNT-101**	Via Nova Therapeutics	U.S.	Replication - nucleoprotein	1
Lassa fever	ARN-75039	Arisan Therapeutics	U.S.	Entry - Fusion	1
	LHF 535+	Kineta	U.S.	Entry - Fusion	1
Chapare HF	LHF 535+	Kineta	U.S.	Entry - Fusion	1
Dengue	Mosnodenvir	Katholieke Universiteit Leuven (KUL)	Belgium	Replication - NS3/4B	2
	EYU688	Novartis	Switzerland	Replication - NS4B	2
Mpox	ASC10	Ascletis Pharma	China	Replication	1
Polio	Pocapavir	ViroDefense	U.S.	Entry	1
Rhinovirus	Vapendavir	Vaxart, Altesa Biosciences	U.S., U.S.	Entry - Capsid	2

*As of January 2026. **1 new addition, VNT-101, moved from Preclinical Potential Candidate.
+LHF535 under evaluation for two viral diseases. Chapare HF: Chapare hemorrhagic fever.

New Additions to the Antiviral Preclinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds added since 4th Edition (15 of 48)

Virus Family	Indication	Stage of Development	Compound	Antiviral R&D Program Lead(s)	Type	Location
Coronaviridae	COVID-19	Hit	mCNW330	AViDD - CAMPP	University	United States
			MWAC-3429	AViDD - MidWest (Univ FL)	University	United States
		Early Lead	AVI-4206	AViDD - UCSF	University	United States
			Compound 18	Experimental Drug Design Centre (EDDC)	Research Institute	Singapore
			MIC1930	Micar21	Biotech/Pharma	Bulgaria
			RA-0002112	AViDD - READDI-AC	University	United States
			SCR005	Cornell University, City University of New York, San Diego State University, University of California Los Angeles; NIAID funding	University	United States
			SCR007			
		Late Lead	3N39v4-Fc	Juntendo University	University	Japan
			AVI-4516	AViDD - UCSF	University	United States
			AVI-4773	AViDD - UCSF	University	United States
			AVI-6451	AViDD - UCSF	University	United States
		Potential Candidate	Nanosota-9	AViDD - MidWest	University	United States
	MERS-CoV	Late Lead	AVI-4516	AViDD - UCSF	University	United States
			AVI-4773			

*As of January 2026; AViDD: US NIH/NIAID Antiviral Drug Discovery center.

New Additions to the Antiviral Preclinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds added since 4th Edition (17 of 48)

Virus Family	Indication	Stage of Development	Compound	Antiviral R&D Program Lead(s)	Type	Location
Filoviridae	**Ebola**	Late Lead	Nanosota-EB1	AViDD - MidWest	University	United States
		Potential Candidate	Nanosota-EB2			
Flaviviridae	**Dengue**	Early Lead	DHFLV_003B	Foundation for Neglected Disease Research, DevsHealth	University	India, Spain
			ZXH-2-107	Stanford University, Stanford University School of Medicine	University	United States
			ZXH-8-004			
		Late Lead	ASAP-0029002	AViDD - ASAP	University	United States
			DV-B-120	Kaohsiung Medical University	University	Taiwan
		Potential Candidate	mCOT466	AViDD - CAMPP	University	United States
	West Nile virus	Early Lead	DHFLV_003B	Foundation for Neglected Disease Research, DevsHealth	Research Institute	India, Spain
	Yellow fever	Early Lead	AT-2490	ATEA Pharmaceuticals	Biotech/Pharma	United States
		Late Lead	LRP1-Fc Decoy	Washington University School of Medicine	University	United States
			LRP4-Fc Decoy			
			VLDLR-Fc decoy			
	Zika	Early Lead	DHFLV_003B	Foundation for Neglected Disease Research, DevsHealth	Research Institute	India, Spain
			MWAC-4001	AViDD - MidWest	Research Institute	United States
		Late Lead	ASAP-0036543	AViDD - ASAP	Biotech/Pharma	United States
	Pan-flaviviruses	Hit	MMV1791425	Inst of Micro, Univ Hospital Lausanne, Univ of Lausanne; Sao Carlos Inst of Physics; MMV Medicines for Malaria Venture	University	Switzerland; Brazil; Switzerland

*As of January 2026; AViDD: US NIH/NIAID Antiviral Drug Discovery center.

Changes in Antiviral Preclinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds added since 4th Edition (final 16 of 48)

Virus Family	Indication	Stage of Development	Compound	Antiviral R&D Program Lead(s)	Type	Location
Nairoviridae	**Hemorrhagic Fevers** (e.g, Crim. Congo hem fever)	Hit	kCOT923	AViDD - CAMPP	University	United States
Orthomyxoviridae	**Influenza**	Early Lead	Oral replication inhibitor	CoCrystal Pharma, Merck	Biotech/Pharma	United States, United States
			MIC1930	Micar21	Biotech/Pharma	Bulgaria
			Ro-3306	Beijing Institute of Pharmacology and Toxicology	Research Institute	China
		Late Lead	DS-22-inf-009	Denovo Sciences, Bio-Rad Laboratories	Biotech/Pharma	Armenia, United States
			DS-22-inf-021			
Paramyxoviridae	**Measles**	Potential Candidate	EIDD-3608	AViDD - AC/DC	University	United States
	Nipah virus	Late Lead	4'-Fluorouridine	Centers for Disease Control and Prevention (CDC)	Government Institute	United States
Phenuiviridae	**Heartland virus**	Potential Candidate	4'-Fluorouridine	Utah State University	University	United States
	Rift Valley fever	Hit	G202-0362	MedKoo Biosciences	Biotech/Pharma	United States
	SFTSV	Potential Candidate	VV251	Chinese Academy of Sciences, University of Chinese Academy of Sciences	Research Institute, Academic	China
Picornaviridae	**Enterovirus**	Early Lead	ASAP-0023152	AViDD - ASAP	University	United States
		Late Lead	Compound 21	Experimental Drug Design Centre (EDDC)	Research Institute	Singapore
	Rhinovirus	Early Lead	Pan-viral protease inhibitor	CoCrystal Pharma	Biotech/Pharma	United States
		Late Lead	Compound 21	Experimental Drug Design Centre (EDDC)	Research Institute	Singapore
Poxviridae	**Smallpox/other pox**	Late lead	UMM-766	United States Army Medical Research Institute of Infectious Diseases (USAMRIID), Merck	Government Institute; Biotech/Pharma	United States

*As of January 2026; AViDD: US NIH/NIAID Antiviral Drug Discovery center;
SFTSV: Severe fever with thrombocytopenia syndrome virus.

Changes in Antiviral Preclinical Development Pipeline: INTREPID Alliance 5th Edition*

Compounds that advanced in development or are now archived or discontinued

Virus Family	Indication	Compound	Prior Preclinical Status	5th Edition Status
Coronaviridae	COVID-19	3N39v4-Fc (chimeric protein)	Late Lead	Archived
		CDI-45205	Potential Candidate	Archived
		COR803	Potential Candidate	Archived
		GC376	Potential Candidate	Archived
		HT-002	Late Lead	Archived
		Pan-coronavirus protease	Hit	Archived
		P315V	Potential Candidate	Clinical Phase 2
	MERS-CoV	Pan-coronavirus protease	Hit	Archived
	SARS-CoV-1	Pan-coronavirus protease	Hit	Archived
Flaviviridae	Dengue	Compound 24a	Late Lead	Archived
		Compound 28a	Late Lead	Archived
		Dengue protease	Hit	Archived
		JNJ-A07	Late Lead	Archived
		Pan-flavivirus protease	Hit	Archived
	West Nile	Pan-flavivirus protease	Hit	Archived
	Yellow fever	Pan-flavivirus protease	Hit	Archived
	Zika	Saliphylhalamide	Late Lead	Archived
Orthomyxoviridae	Influenza	VNT-101	Potential Candidate	Clinical Phase 1
Togaviridae	Chikungunya	Chikungunya protease	Early Lead	Archived

- 2 compounds advanced to clinical development
  - 1 for COVID-19 and 1 for Influenza
- A higher number of compounds moving to archived is consistent with the rates of attrition in early drug development.

*As of January 2026.

Preclinical Compounds for COVID-19 (N=22)*

Potential Candidates (n=9), Late Leads (n=13)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Potential Candidate	COVID-19	ASAP-0017445**	AViDD - ASAP	U.S.	Protease - 3CL pro
		CDI-873	CoCrystal Pharma	U.S.	Protease - 3CL pro
		COV-X	Infex Therapeutics	U.K.	Protease - PL pro
		MDL-001**	Model Medicines	U.S.	Replication - RdRp Thumb 1
		Nanosota-9**	AViDD - MidWest	U.S.	Entry - Spike (Omicron)
		NV-387-R	NanoViricides	U.S.	Entry (NV-387) + Replication (remdesivir)
		RCYM003	Raynovent	China	Protease - 3CL pro
		SY110	Sichuan University	China	Protease - 3CL pro
		THY-01	Thylacine Biotherapeutics Inc.	U.S.	Entry - Fusion
Late Lead	COVID-19	2-Thiouridine	Hokkaido University	Japan	Replication - RdRp
		3N39v4-Fc (mRNA LNP)+	Juntendo University	Japan	Entry - Spike
		AVI-4516**	AViDD - UCSF	U.S.	Protease - 3CL pro
		AVI-4773**	AViDD - UCSF	U.S.	Protease - 3CL pro
		AVI-6451**	AViDD - UCSF	U.S.	Replication - MAC1
		Beta-521	Benevira	U.S.	Entry
		DCOY 102/103	Decoy Therapeutics	U.S.	Entry - Decoy
		Jun12682	Rutgers University	U.S.	Protease - PL pro
		Jun13296**	Rutgers University	U.S.	Protease - PL pro
		LNA ASOs	Univ. of California Berkeley	U.S.	Replication -RNA
		ML2006a4	Stanford University	U.S.	Protease - 3CL pro
		MVR-V001	MVRIX	South Korea	Entry - Decoy
		PF-07957472	Pfizer	U.S.	Protease - PL pro

*As of January 2026; **New additions; +Modality changed to deliver mRNA encoding the inhibitor.

Preclinical Compounds for Non-COVID-19 (N=13 OF 34)*

Potential Candidates (n=13)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Potential Candidate	**Junin virus**	4'-fluorouridine+	US CDC and Utah State Univ.	U.S., U.S.	Replication - RdRp
	Lassa fever	4'-fluorouridine+	US CDC and Utah State Univ.	U.S., U.S.	Replication - RdRp
	MERS-CoV	ASAP-0017445**	AViDD - ASAP	U.S.	Protease - Mpro
		THY-01+	Thylacine Biotherapeutics Inc.	U.S.	Entry - Fusion
	SARS-CoV-1	THY-01+	Thylacine Biotherapeutics Inc.	U.S.	Entry - Fusion
	Ebola	Nanosota-EB2**	AViDD - MidWest	U.S.	Entry
	Dengue	mCOT466**	AViDD - CAMPP	U.S.	Replication - RdRp
	Influenza	AnQlar	Virpax Pharmaceuticals	U.S.	Entry
	Measles	GHP-88310/(EIDD-3608)	AViDD - AC/DC	U.S.	Replication - RdRp
	Parainfluenza	GHP-88309	Georgia State Univ., Icahn School of Medicine at Mount Sinai, Emory Univ., Univ. of Washington	U.S., U.S., U.S.	Replication - RdRp
	Heartland virus	4'-Fluorouridine**+	Utah State University	U.S.	Replication - RdRp
	SFTSV	VV251**	Chinese Acad. of Sciences, Univ. of Chinese Acad. of Sciences	China	Replication - RdRp
	Chikungunya	4'-Fluorouridine**+	Albert Einstein College of Medicine	U.S.	Replication - RdRp

*As of January 2026. **New additions.
+4'-fluorouridine and THY-01 are under evaluation for >1 indication.
SFTSV: Severe fever with thrombocytopenia syndrome virus.

Preclinical Compounds for Non-COVID-19 (N=11 OF 34)*

Late Leads (n=11)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Late Lead	MERS-CoV	AVI-4516**	AViDD - UCSF	U.S.	Protease
		AVI-4773**	AViDD - UCSF	U.S.	Protease
	Ebola	Nanosota-EB1**	AViDD - MidWest	U.S.	Entry
	Dengue	2-Thiouridine	Univ. of Porto, Inst. for Antiviral Res.	Portugal, U.S.	Replication - RdRp
		ASAP-0029002**	AViDD - ASAP	U.S.	Protease
		DV-B-120**	Kaohsiung Medical University	Taiwan	Protease
	Yellow fever	BSBI-YF**	Blumberg Institute	U.S.	Replication - NS4B
		LRP1-Fc Decoy**	Washington Univ. School of Medicine	U.S.	Entry
		LRP4-Fc Decoy**	Washington Univ. School of Medicine	U.S.	Entry
		VLDLR-Fc decoy**	Washington Univ. School of Medicine	U.S.	Entry
	Zika	ASAP-0036543**	AViDD - ASAP	U.S.	Protease

*As of January 2026. **New additions.

Preclinical Compounds for Non-COVID-19 (N=10 OF 34)*

Late Leads (n=10)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Late Lead	Influenza	DS-22-inf-009**	Denovo Sciences, Bio-Rad Laboratories	Armenia, U.S.	Assembly/Release - NA
		DS-22-inf-021**	Denovo Sciences, Bio-Rad Laboratories	Armenia, U.S.	Assembly/Release - NA
		ING-1466	University of Illinois at Chicago, Chicago BioSolutions	U.S.	Entry - Flu HA
		UAWJ280	University of Georgia, University of Arizona	U.S., U.S.	Entry - Flu M2
	Nipah virus	4'-Fluorouridine**+	Centers for Disease Control and Prevention (CDC)	U.S.	Replication - RdRp
		VIKI-dPEG4-toco	Columbia University, Claude Bernard University	U.S., France	Entry - Fusion
		VIKI-PEG4-chol	Columbia University, Claude Bernard University	U.S., France	Entry - Fusion
	Enterovirus	Compound 21**+	Experimental Drug Design Centre (EDDC)	Singapore	Protease
	Rhinovirus	Compound 21**+	Experimental Drug Design Centre (EDDC)	Singapore	Protease
	Smallpox/other pox	UMM-766**	U.S. Army Medical Research Inst. of Inf. Dis. (USAMRIID), Merck Sharp & Dohme (MSD)	U.S.	Replication

*As of January 2026. **New additions; +Compound under preclinical evaluation for >1 viral disease indication.

Ribavirin Has Several Ongoing Activities in Both the Clinical and Preclinical Space*

Clinical Studies (n=6); Preclinical Exploratory (n=11)

Phase of Development	Viral Disease	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Phase 3	COVID-19	Bausch Health	Canada	IMPDH1**
	Dengue+	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
Phase 2	Crimean Congo hemorrhagic fever***	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
	Influenza	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
	Japanese encephalitis	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
	Lassa fever	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
Preclinical Exploratory	Argentine hemorrhagic fever	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
	Heartland virus**	Okayama Univ., FUJIFILM Toyama Chemical, Toyama Inst. of Health, Sapporo City Health & Welfare Bureau, National Inst. of Inf. Dis. (NIID)	Japan	IMPDH1
	Hendra virus	Bausch Health	Canada	IMPDH1
	Human Adenovirus A-G	Bausch Health	Canada	IMPDH1
	Lujo hemorrhagic fever	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
	Measles	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
	Mpox	Bausch Health, Roche	Canada, Switzerland	IMPDH1
	Nipah virus	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
	Parainfluenza	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1
	Rift Valley fever**	Bausch Health, Roche	Canada, Switzerland	IMPDH1
	Zika	Bausch Health, Roche, Chugai Pharmaceutical	Canada, Switzerland, Japan	IMPDH1

*As of January 2026. **IMPDH1: Inosine-5'-Monophosphate Dehydrogenase 1.
***A second Phase 2 study is also ongoing for ribavirin in combination with favipiravir.

Archived Antiviral Compounds for COVID-19* (N=15 OF 26)

Clinical (n=1), Preclinical (n=14)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target	Additional Information
Clinical	COVID-19	WPV01/rtv	Westlake University	China	Protease - 3CL pro	
Preclinical	COVID-19	3N39v4-Fc (chimeric protein)**	Juntendo University	Japan	Entry - Spike	Now delivered as mRNA LNP modality
		4'-Fluorouridine	Georgia State Univ., Emory Univ., Texas Biomedical Res. Inst.	U.S., U.S., U.S.	Replication - RdRp	
		Antisense Oligonucleotides	Sarepta Therapeutics	U.S.	Viral RNA	
		ATV006	Guangdong Provincial Center for Disease Control and Prevention	China	Replication - RdRp	
		CDI-45205**	CoCrystal Pharma	U.S.	Protease - 3CL pro	Formerly a Potential Candidate
		COR803**	Quince Therapeutics (formerly Cortexyme)	U.S.	Protease - 3CL pro	Formerly a Potential Candidate
		GC376**	Anivive Lifesciences	U.S.	Protease - 3CL pro	Formerly a Potential Candidate
		GDI-4405	Jiangsu Hansoh Pharmaceutical	China	Protease - 3CL pro	
		GS-621763	Gilead Sciences	U.S.	Replication - RdRp	
		GS-6620	Gilead Sciences	U.S.	Protease - 3CL pro	
		HT-002**	Hoth Therapeutics	U.S.	Entry - peptide	Formerly a Late Lead
		Mpro inhibitor**	Exscientia	United Kingdom	Protease - 3CL pro	Formerly a Late Lead
		Pan-coronavirus broad spectrum antiviral**	Protinhi	Netherlands	Protease	Formerly a Hit
		PF-00835231	Pfizer	U.S.	Protease - 3CL pro	

*As of January 2026. **New additions.

Archived Antiviral Compounds for COVID-19* (N=11 of 26)

Preclinical - *in silico* data only (n=11)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Preclinical (*in silico* data only)	COVID-19	1KJ0-7	Shahid Chamran University	Iran	Protease - 3CL pro
		2ERW-9	Shahid Chamran University	Iran	Protease - 3CL pro
		Ab001	Agastiya Biotech	U.S.	Entry - ACE2; Replication - NSP15
		AB-343	Arbutus Biopharma	U.S.	Protease - 3CL pro
		Bananin	Medsintez Pharmaceutical	Russia	NSP13 helicase
		chromone-4c	Pritzker School of Molecular Engineering	U.S.	NSP13 helicase
		Coumarin-EM04	Sambalpur University	India	Protease - 3CL pro
		LMed-052	State Univ. of Londrina, Federal Univ. of Rio de Janeiro (UFRJ)	Brazil	Replication - RdRp
		LMed-087	State Univ. of Londrina, Federal Univ. of Rio de Janeiro (UFRJ)	Brazil	Replication - RdRp
		Monomethylated Triazolopyrimidine	Univ. of Hyderabad, National Inst. of Animal Biotechnology	India	Replication - RdRp
		Oral nsp12 inhibitor	Arbutus Biopharma	U.S.	Replication - RdRp

*As of January 2026.

Archived Antiviral Compounds for Non-COVID-19* (N=20 of 60)

Clinical (n=7), Preclinical (n=13)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Clinical	Human Adenovirus A-G	Cidofovir	Investigator Initiated - compassionate use	U.S.	Replication - DNA pol
	MERS-CoV	Galidesivir	BioCryst Pharmaceuticals, NIAID	U.S., U.S.	Replication - RdRp
	SARS-CoV-1	Galidesivir	BioCryst Pharmaceuticals, NIAID	U.S., U.S.	Replication - RdRp
	Ebola	Galidesivir	BioCryst Pharmaceuticals, NIAID	U.S., U.S.	Replication - RdRp
	Marburg	Galidesivir	BioCryst Pharmaceuticals, NIAID	U.S., U.S.	Replication - RdRp
	Dengue	Galidesivir	BioCryst Pharmaceuticals, NIAID	U.S., U.S.	Replication - RdRp
	Zika	Galidesivir	BioCryst Pharmaceuticals, NIAID	U.S., U.S.	Replication - RdRp
Preclinical	MERS-CoV	Pan-coronavirus broad spectrum antiviral**	Protinhi	Netherlands	Protease
	SARS-CoV-1	Pan-coronavirus broad spectrum antiviral**	Protinhi	Netherlands	Protease
	Influenza	CD-SA cyclodextrin	University of Geneva	Switzerland	Entry - Viral Envelope
		Oral FluCide	NanoViricides	U.S.	Not yet confirmed
		STP-702	SirnaOmics	U.S.	Replication - siRNA
		Tamiphosphor	TaiMed Biologics	Taiwan	Assembly/Release - NA
	CCHF	Remdesivir**	Gilead Sciences	U.S.	Replication - RdRp
	West Nile virus	Pan-flavivirus broad spectrum antiviral**	Protinhi	Netherlands	Protease
	Zika	Pan-flavivirus broad spectrum antiviral**	Protinhi	Netherlands	Protease
		Saliphenylhalamide**	University of Helsinki	Finland	Replication
	Parainfluenza	GS-441524	Gilead Sciences	U.S.	Replication - RdRp
	Mpox	NV-387-T**	NanoViricides	United States	Entry (NV-387) + Assembly/Release (tecovirimat)
	Chikungunya	Chikungunya antiviral**	Protinhi	Netherlands	Protease

*As of January 2026. CCHF: Crimean Congo hemorrhagic fever; **New additions.

Archived Antiviral Compounds for Non-COVID-19* (N=20 of 60)

Preclinical (n=17), Preclinical - *in silico* data only (n=3)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Preclinical (*in silico* only)	SARS-CoV-1	Bananin	Medsintez Pharmaceutical	Russia	Replication - NSP13 helicase
	Influenza	Epigallocatechin-3-gallate**	Wuhan Univ., Sylhet Agricultural Univ. (SAU)	China, Bangladesh	Replication - H3N2 nucleoprotein RNA pol
	Mpox	Simeprevir	Johnson & Johnson Innovative Medicine	U.S.	Assembly/Release - Capsid
Preclinical	Dengue	166347	PanThera Biopharma, LLC, Aiea, HI, USA	U.S.	Protease - NS2/3
		2'-C-Methylcytidine (NM107)	University of Porto; Utah State Univ. Inst. Antiviral Res.	Portugal; U.S.	Replication - RdRp
		6A49	Univ. Texas Medical Branch	U.S.	Protease - NS2/3
		7-Fluoro MK608	Emory University	U.S.	Replication - RdRp
		Allosteric NS5 inhibitor	Novartis	Switzerland	Replication - RdRp
		ARDP0006	Univ. Texas Medical Branch	U.S.	Protease - NS2/3
		ARDP0009	Univ. Texas Medical Branch	U.S.	Protease - NS2/3
		Carnosine	Georgia State University, USA	U.S.	Protease - NS2/3
		Compound 14a - NITD	Novartis	Switzerland	Replication - NS4b
		Compound 24a**	Johnson & Johnson Innovative Medicine	U.S.	Replication
		Compound 28a**	Johnson & Johnson Innovative Medicine	U.S.	Replication
		Compound 6 - NITD	Novartis	Switzerland	Entry
		Compound 104	Heidelberg University	Germany	Protease - NS2/3
		Compound 14	Nankai University	China	Protease - NS2/3
		Compound 32	Heidelberg University	Germany	Protease - NS2/3
		Compound 45a	Heidelberg University	Germany	Protease - NS2/3
		Compound 7n	Georgetown University	U.S.	Protease - NS2/3

*As of January 2026. **New additions.

Archived Antiviral Compounds for Non-COVID-19* (N=20 of 60)

Preclinical (n=20)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Preclinical	Dengue	Compound C/D/F	Georgetown University	U.S.	Protease - NS2/3
		Compound1	Novartis Institute for Tropical Diseases (NITD)	U.S.	Protease - NS2/3
		Compound1/6/8 - diarylthioethers	Marburg/Heidelberg University	Germany	Protease - NS2/3
		Dengue antiviral**	Protinhi	Netherlands	Protease
		JNJ-A07**	Johnson & Johnson Innovative Medicine	United States	Replication
		Ltc1	University of Malaysia	Malaysia	Protease - NS2/3
		MB21	Birla Institute of Technology and Science	India	Protease - NS2/3
		Methyl transferase inhibitor	Novartis	Switzerland	Replication - RNA Methyl transferase
		MK608	Merck	U.S.	Replication - RdRp
		Nelfinavir	Lund University, Sweden	Sweden	Protease - NS2/3
		NITD-618	Novartis	Switzerland	Replication - NS4b
		Pan-flavivirus broad spectrum antiviral**	Protinhi	Netherlands	Protease
		Policresulin	Zheijiang University	China	Protease - NS2/3
		Potegrin 1	University of Malaysia	Malaysia	Protease - NS2/3
		Protease inhibitor	Heidelberg University	Germany	Protease - NS2/3
		Retrocyclin 1	University of Malaysia	Malaysia	Protease - NS2/3
		RK-0404678	RIKEN, Japan	Japan	Replication - NS5
		ST-148	SIGA	U.S.	Assembly/Release -Capsid
		ST-610	SIGA	U.S.	Replication - Helicase
		Thiazolidinone-peptide	Heidelberg University	Germany	Protease - NS2/3

*As of January 2026. **New additions.

Discontinued Clinical Antiviral Compounds* (N=17)

COVID-19 (n=6), Non-COVID-19 (n=11)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Clinical	COVID-19	Amantadine**	Investigator Initiated - Medical Univ. of Lodz	Poland	Entry - Proton Channel M2
		Bemnifosbuvir	Atea Pharmaceuticals	U.S.	Replication - RdRp
		BIT-225	Biotron	Australia	Assembly/Release
		Galidesivir	BioCryst Pharmaceuticals, NIAID	U.S., U.S.	Replication - RdRp
		Obeldesivir	Gilead Sciences	U.S.	Replication - RdRp
		Valganciclovir	Roche	Switzerland	Replication - DNA pol
	Influenza	AL-794	Johnson & Johnson Innovative Medicine	U.S.	Replication - Endonuclease
		Flufirvitide-3	Autoimmune Technologies	U.S.	Entry - Flu HA
		Pimodivir (JNJ-63623872/VX-787)**	Vertex Pharm.; Johnson & Johnson Innov. Med.	US., U.S.	Replication - PB2 inhibitor
		Radavirsen	Sarepta Therapeutics	U.S.	Replication - Translation
	Human Adenovirus A-G	Brincidofovir (ORAL)	Chimerix	U.S.	Replication - DdDp
		Valganciclovir	Roche	Switzerland	Replication - DNA pol
	Dengue	AT-752	Atea Pharmaceuticals	U.S.	Replication - DdRp
		Balapiravir	Roche	Switzerland	Replication - RdRp
	Yellow fever	Galidesivir	BioCryst Pharmaceuticals, NIAID	U.S., U.S.	Replication - RdRp
	Hendra virus	Balapiravir	Roche	Switzerland	Replication - RdRp
	Nipah virus	Balapiravir	Roche	Switzerland	Replication - RdRp

*As of January 2026. **New additions.

Discontinued Preclinical Antiviral Compounds* (N=7)

COVID-19 (n=1), Non-COVID-19 (n=6)

Phase of Development	Viral Disease	Compound	Antiviral R&D Program Lead(s)	Country	Mechanism/Target
Preclinical	COVID-19	ISM036-076 PCC	Insilico Medicine	China	Protease - 3CL pro
	Dengue	NITD - cyclic phosphoramidate compound 17	Novartis	Switzerland	Replication - NS5 polymerase
		NITD008	Novartis Institute for Tropical Diseases (NITD)	U.S.	Replication - RdRp
		NITD203	Novartis	Switzerland	Replication - NS5 polymerase
	Yellow fever	NITD008	Novartis Institute for Tropical Diseases (NITD)	U.S.	Replication - RdRp
	Zika	NITD008	Novartis Institute for Tropical Diseases (NITD)	U.S.	Replication - RdRp
	Parainfluenza	BCX 2798	BioCryst Pharmaceuticals	U.S.	Entry - parainfluenza HN

*As of January 2026.

Select References for "Promising" Novel Clinical Antiviral Compounds*

These were cited in addition to information provided by Airfinity.

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*As of January 2026.

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*As of January 2026.

Glossary of Terms

Glossary of Terms

- **ADME:** absorption, distribution, metabolism, and excretion
- **Approved Antiviral-Indication Expansion:** antiviral approved for one or more viral disease indications (e.g., cidofovir, favipiravir, molnupiravir, remdesivir, valganciclovir)
- **'Archived' Compound:** clinical compound where development has paused or no recent information available from the past 5 years
- **CRO:** contract research organization
- **'Discontinued' Compound:** clinical compound where development has stopped for known reasons (e.g., change in business strategy, lack of efficacy or funding, low enrollment, PK variability preventing effective dosing, other)
- **'Exclude' Compound:** clinical compound with known disqualifying data related to safety and tolerability, efficacy, developability, chemical structure, etc.
- **FIH:** first-in-human
- **HI:** high-income
- **IND:** Investigational New Drug
- **Investigational Antiviral-Indication Expansion:** antiviral in clinical development, not yet approved (e.g., AT-752, filociclovir, galidesivir, GC736, GRL0167, NV-387-T, obeldesivir, rupintrivir)
- **LMI:** lower-middle income
- **MOA:** mechanism of action
- **O.N.A.:** other national authority
- **PD:** pharmacodynamic
- **PK:** pharmacokinetic
- **POC:** proof-of-concept

Glossary of Terms (cont'd)

- **Preclinical Compounds with only preclinical data and no clinical data:**
  - **Hit** – high-throughput or compound library screening hit, initial antiviral activity requiring significant optimization. Limited or no *in vitro* data available supporting antiviral mechanism of action (MOA).
  - **Early Lead** – limited Structure-Activity Relationship (SAR), antiviral activity associated with MOA, may have limited *in vitro/in vivo* pharmacokinetic data reported.
  - **Late Lead** – potency consistent with candidate quality for the specific MOA, more extensive *in vitro* characterization (e.g. ADME profile, activity against clinically relevant virus strains/isolates), *in vivo* PK and/or animal efficacy model data reported.
  - **Potential Candidate** – *in vivo* efficacy and safety dataset consistent with preparation for FDA IND (or similar) submission. Compound has been reported by developer as a pipeline clinical candidate and/or in IND (or similar) enabling studies.
  - **Archived** – progress on the compound has been stopped (timeframe stopped, 5 years); antiviral evidence is only computational; previously optimized drug from another antiviral/other indication that only has weak activity.
  - **Discontinued** – compound progression has been stopped for known reasons; for example, compound failed preclinical "IND" toxicology, change in business strategy, etc. May be useful to inform new screening or medicinal chemistry efforts.
- **Preclinical Exploratory:** Investigational ("unapproved") and Approved antivirals exploring antiviral activity against a different virus from the Investigational/Approved antiviral indication
- **'Promising' Compound:** clinical compound that aligns with 100 Days Mission goals and/or has been registered and approved for established viral diseases
- **S.A.:** stringent authority
- **SAD/MAD:** Single Ascending Dose/Multiple Ascending Dose
- **UMI:** upper-middle income
- **'Watch & Wait' Compound:** clinical compound that has FIH or POC studies just starting/ongoing or data are available for a completed study or unable to make a data-driven evaluation at the time of the analysis

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