



**Bio**  
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# New Vaccines in Development

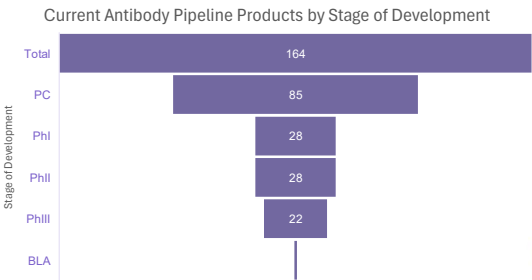
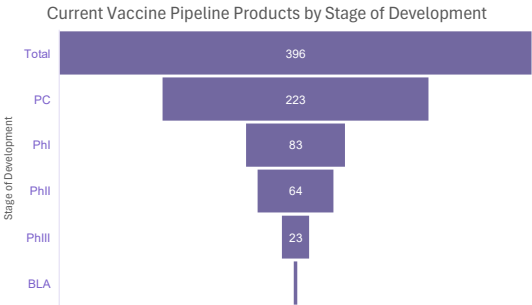
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# Vaccines and Immunizations Pipeline Review

# Vaccines

## Pipeline Overview

Phase	Pre Cl	PhI	PhII	PhIII	BLA	Total
Vaccines	223	83	64	23	3	396
Antibodies	85	28	28	22	1	164



Pipeline primary sources: Citeline's Biomedtracker, Company websites, Clinicaltrials.gov



## Targets with Most Candidates in Pipeline

Vaccines	
Target	Total Products in Pipeline
COVID-19 Prevention	111
Influenza	38
Seasonal Influenza	21
Malaria	18
RSV	17

Antibodies	
Target	Total Products in Pipeline
COVID-19 Treatment	79
HIV/AIDS Treatment	16
COVID-19 Prevention	15
Hepatitis B Treatment (Antiviral)	5
Staphylococcal, RSV, Influenza, C. difficile	4



## Vaccines in Late Stage – Filed with FDA (BLA)

Disease	Number of Products	Notes
COVID-19 Prevention	2	Next Generation COVID-19 vaccine; COVID-19/influenza combo
Seasonal Influenza Vaccines	1	COVID-19/Influenza Combo (same as above)



## Vaccines in Late Stage (Phase III) Development

Disease	Number of Products	Notes
Clostridium difficile-Associated Diarrhea/Infection (CDAD/CDI)	1	Vaccine did not meet Ph 3 primary endpoint but did show efficacy in preventing medical treatment and antibiotic use
Covid-19 Prevention	7	
Dengue Fever	1	
Ebola	1	
Escherichia coli-Specific Agents (Antibacterial)	1	Vaccine discontinued due to efficacy
HIV Prevention	1	Vaccine discontinued due to low efficacy
Lyme Disease	1	Targets 6 serotypes of Borrelia of the most common strains found in the US and Europe, has demonstrated strong immunogenicity in adults thus far
Pandemic Influenza Vaccines	1	
Pneumococcal (Streptococcus pneumoniae) Vaccines (Antibacterial)	1	Next generation 21-valent PCV to provide broader serotype coverage
Rabies	2	
Respiratory Syncytial Virus (RSV) Prevention	1	An intranasal live-attenuated vaccine - the first specifically designed to protect toddlers from the second RSV season onwards
Seasonal Influenza Vaccines	2	



## Vaccines in Phase II Development

Disease	# of Products	Notes
Chickenpox and Shingles	2	1 in phase II, 1 in phase IIb
Chikungunya Virus	1	
Clostridium difficile-Associated Diarrhea/Infection (CDAD/CDI)	1	a prophylactic, protein subunit vaccine
COVID-19	8	6 in Phase II, 1 in Phase II/III, 1 in Phase IIb
Cytomegalovirus (CMV) Infection (Antiviral)	1	designed for transplant patients
Dengue Fever	1	
Hantavirus	1	
HIV Prevention	1	a tetravalent vaccine candidate
Human Papillomavirus (HPV) Treatment (Antiviral)	1	
Influenza	4	3 in Phase II, 1 in Phase IIb
Malaria	5	one WHO recommended and in use in 19 countries in Africa
Mpox	1	
Norovirus	3	1 in Phase II, 1 in Phase II/III, 1 in Phase IIb; two are oral vaccines
Plague	1	
Pneumococcal (Streptococcus pneumoniae) Vaccines	4	Two 24 valent products (infants), one 31 valent (adults)
Respiratory Syncytial Virus (RSV)	2	one targeting RSV & human metapneumovirus (hMPV)- two leading causes of severe respiratory infections in adults 60



## Cytomegalovirus (CMV) Products in the Pipeline

Disease	Number of Products	Product Name	Phase
Cytomegalovirus (CMV) Infection	3	mRNA-1647	Phase III
		GSK3993129A	Phase I/II
		Triplex	Phase II
		VBI-1501A	Phase I



## Pneumococcal Products in the Pipeline

Disease	Number of Products	Product Name	Phase
Pneumococcal (Streptococcus pneumoniae) Vaccines	6	SP0202	Phase III
		AFX3772	Phase II
		VAX-31	Phase II
		PG4 Pneumococcal Vaccine	Phase II
		VAX-24	Phase II
		MVX01	Phase I



# Antibodies

## mAbs in Late Stage (Phase III/BLA) Development

Disease	Number of Products	Phase III or FDA
COVID-19	4	Phase III, one polyclonal antibody
Hepatitis D (HDV) (Antiviral)	2	Phase III
Respiratory Tract Infections (Excluding Pneumonia)	1	Phase III
Respiratory Syncytial Virus (RSV) Prevention	1	BLA



## mAbs in Phase II Development

Disease	Number of Products	Phase III or FDA
BK Virus	2	1 in Phase II, 1 in Phase II/III
COVID-19 Treatment	13	8 in Phase II, 5 in Phase II/III
Hepatitis B (HBV) Treatment (Antiviral)	1	Phase II
HIV / AIDS Treatment	8	Phase II
Pseudomonas-Specific Agents (Antibacterial)	1	Phase II
Seasonal Influenza Vaccines	1	Phase II, polyclonal antibody
Sepsis and Septic Shock	1	Phase II
Staphylococcal Vaccines and Other Staphylococcus-Specific Agents (Antibacterial)	1	Phase II
Hepatitis D (HDV) (Antiviral)	1	Phase II/III
Clostridium difficile-Associated Diarrhea/Infection (CDAD/CDI)	1	Phase IIb



## mAbs in Phase I Development

Disease	Number of Products	Phase III or FDA
Chickenpox and Shingles	1	Phase I
Chikungunya virus	1	Phase I
Community Acquired Pneumonia (CAP) (Antibacterial)	1	Phase I
COVID-19 Prevention / Treatment	12	Phase I (2 prevention, 10 treatment), 1 polyclonal prevention, 1 polyclonal treatment
Ebola	1	Phase I
Hepatitis B (HBV) Treatment (Antiviral)	1	Phase I, polyclonal
Herpes Simplex Virus (HSV) (Antiviral)	1	Phase I
HIV / AIDS Treatment	6	5 in Phase I, 1 in Phase I/II
HIV Prevention	2	Phase I
Influenza	2	1 in Phase I, 1 in Phase I/II
Marburg Hemorrhagic Fever	1	Phase I
Periprosthetic Joint Infection (PJI)	1	Phase I
Staphylococcal Vaccines and Other Staphylococcus-Specific Agents (Antibacterial)	3	3 in Phase I/II



