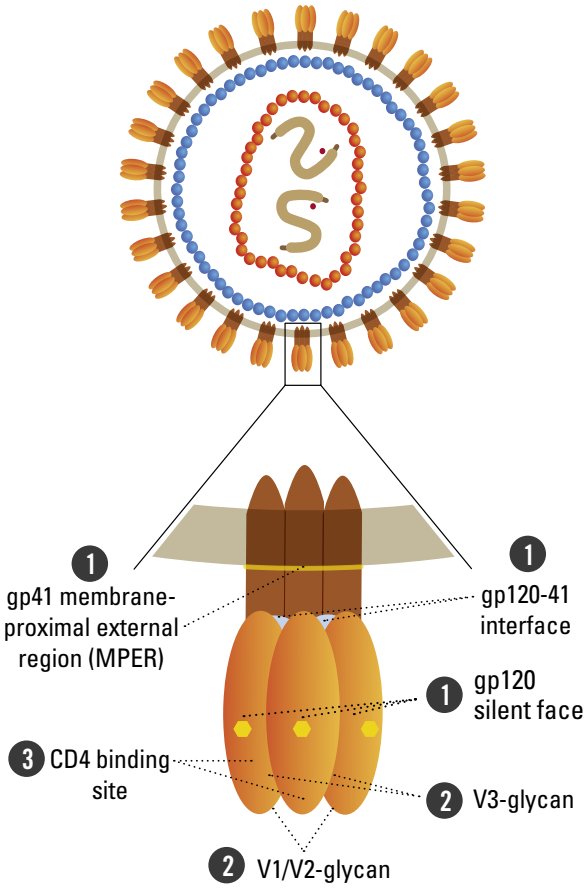
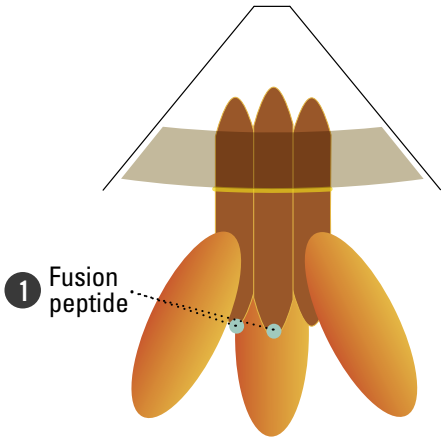
HIV-Specific Neutralizing Antibodies: Targets and research status

Broadly neutralizing antibody research is rapidly expanding. New antibody candidates are being discovered constantly! We outline here the antibodies being considered to guide active vaccination, and as candidates for passive immunization for HIV treatment as well as prevention.

Structure of HIV



Closed envelope spike



Open envelope spike

1 Envelope trimer: Carbohydrate-coated proteins (made of gp120 and gp41) on the surface of HIV. **2 Glycans:** Carbohydrate molecules. **3 CD4 binding site:** Part of HIV protein used to fuse to CD4 T cells.

HIV envelope target	Antibody	Status			
		Pre-clinical	Phase I	Phase II	Phase IIb/III
CD4 binding site	3BNC117		●		
	3BNC117LS		●		
	CH235.12	●			
	N49P7	●			
	N6*		●		
	NIH 45-46	●			
	VRC01				●
	VRC01LS		●		
	VRC07-523LS		●		
Fusion peptide	ACS202	●			
	VRC34.01	●			
gp41 MPER	10E8VLS		●		
	4E10	●			
gp120-41 interface	8ANC195	●			
	PGT151	●			
	LN02	●			
	SANC 195	●			
gp120 silent face	SF12	●			
	VRC-PG05	●			
V1/V2-glycan	CAP256-VRC26LS		●		
	PGDM1400*		●		
	PG9		●		
	CH01	●			
	PG16	●			
	PGT145	●			
V3-glycan	PGT121		●		
	PGT121LS		●		
	PGT128	●			
	PGT135	●			
	10-1074		●		
	10-1074LS		●		
Combination	3BNC117+10-1074	●			
	Trispecific LS (VRC01, PGDM1400 and 10e8)		●		
	PGT121 + PGDM1400			●	
	Bispecific (10e8.4/iMab)		●		
	VRC07-523LS+ PGT121+PGDM1400	●			
	VCR07-523LS+10e8VLS	●			
	VCR07-523LS+PGT121	●			
	VRC07LS+PGDM1400	●			

KEY: ● Ongoing Trials ● Planned Trials ● Completed Trials ● Paused Trials *LS variant in development