

# bNAber

Broadly Neutralizing Antibodies Electronic Resource

<http://bnaber.org>

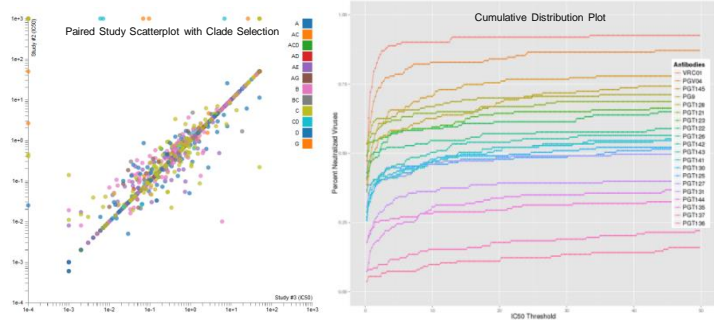
Developed by [chavi-id.org](http://chavi-id.org)  
and **Sanford Burnham**  
Medical Research Institute

bNAber is a database, analysis, visualization, and data mining tool for broadly neutralizing HIV-1 antibodies (bNAbs), and seeks to be a vital tool in the development of an HIV vaccine

The screenshot displays the bNAber web application interface. On the left, there are search filters for 'Select Ab' and 'Select donor'. In the center, a 3D molecular model of a protein structure is shown with various binding sites labeled. On the right, a table titled 'V3/V4/Glycans' lists antibodies with columns for Name, Donor, Neutralization (median IC50), and Neutralization to. Below the table is a heatmap showing neutralization data for different antibodies across various conditions. The interface includes navigation tabs like 'HOME', 'NEUTRALIZATION HEATMAPS', and 'POBA MULTIPLE STRUCTURE COMPARISONS'.

ANALYSIS TOOLS    NEUTBENCH    STATS    STRUCTURES    1D - 3D    BIOLOGIST VIEW    DOWNLOADS    SUBMIT BNAB    HELP

- Neutralization Heatmaps and Tables
  - Neutralization Assessment, Clustering and Visualization
  - Overlay Structures
  - Median IC50 ( $\mu\text{g/ml}$ )
  - Percent Viruses Neutralized
  - Alignment of H and L chain V regions
  - Compare Structure and Sequence Similarity of bNAbs to Known gp120 Sites
  - Submit New bNAb, and Upload Neutralization Data
  - Download Entire Database (MySQL format)
  - Biologist View
- |  |     |
|--|-----|
| Number of unique Abs                     | 96  |
| Number of unique donors                  | 27  |
| Number of binding sites targeted by Abs: | 8   |
| Number of PDBs in the database:          | 111 |

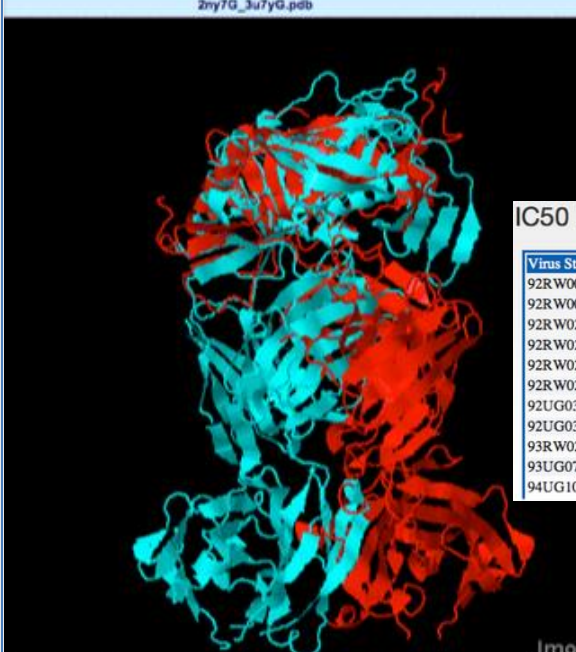
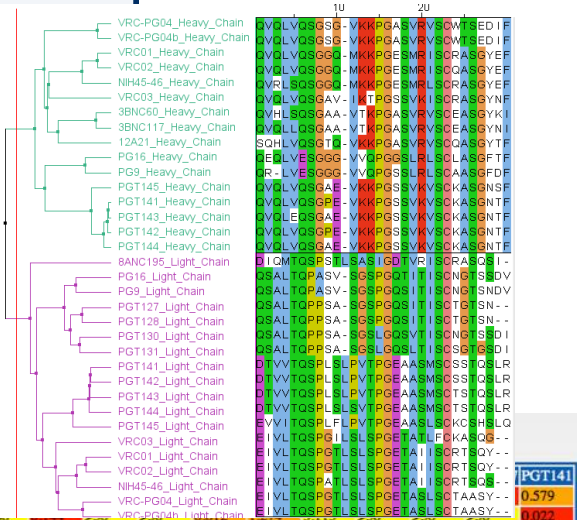


Submit your data at [www.bNAber.org](http://www.bNAber.org) today or contact [support@bnaber.org](mailto:support@bnaber.org)

# bNAber screenshots

<http://bnaber.org>

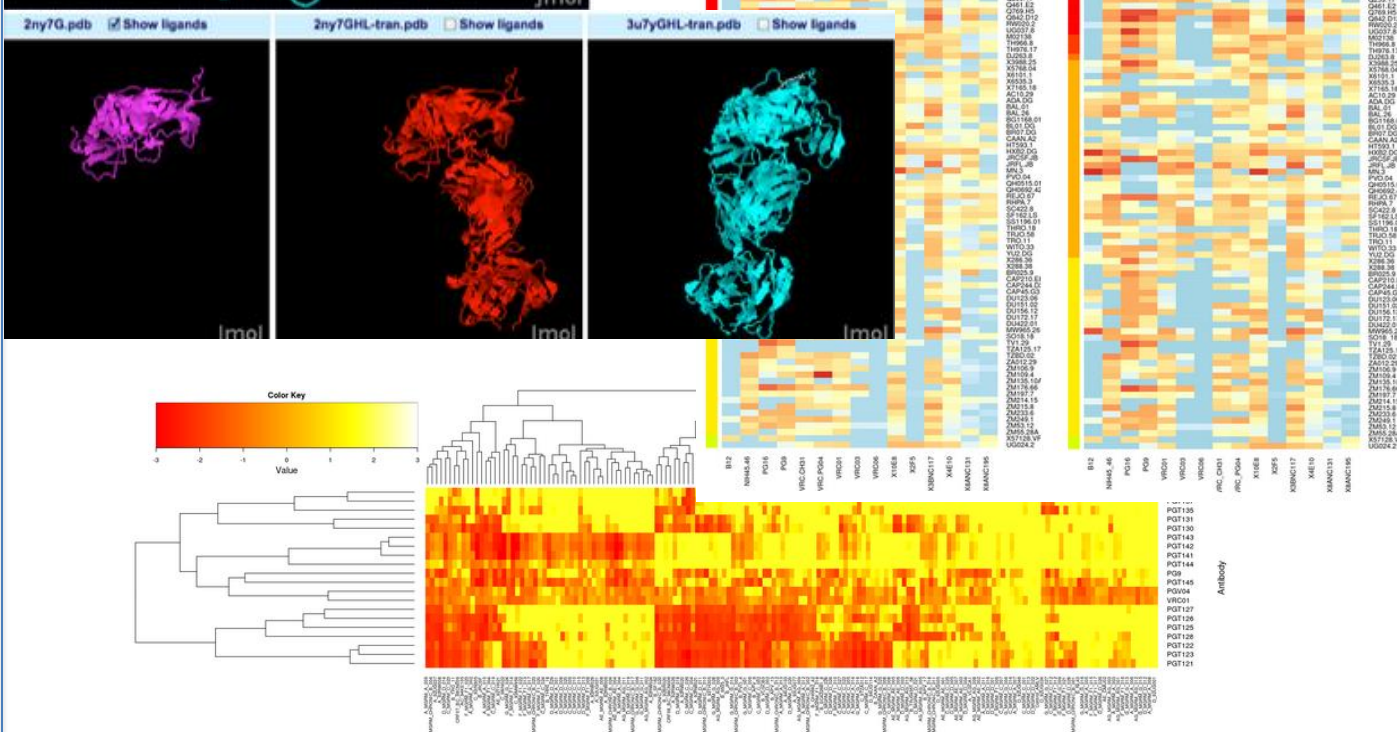
Select	Name	Donor	Binding Site	Neutralization breadth at IC50 < 50 µg/ml, %*	Neutralization breadth at IC80 < 50 µg/ml, %**	Neutralization potency (in µg/ml)	Reference (s)	PDB structure(s)
<input type="checkbox"/>	10-1074	Donor 17	V3 glycan	57	58	NA	23115339	4FQ2
<input type="checkbox"/>	10E8	N152	gp41 MPER	88	NA	0.25	23151583	4GGF
<input type="checkbox"/>	12A12	Patient 12	CD4bs	100	93	0.05	21784753	NA
<input type="checkbox"/>	12A21	Patient 12	CD4bs	87	NA	NA	21784753	4JFW
<input type="checkbox"/>	2F5	unknown	gp41 MPER	87	43	1.44	7520721	
<input type="checkbox"/>	2G12	unknown	others	41			7520721	
<input type="checkbox"/>	35022	N152	face of contiguous	NA	NA	NA	25188731	4TOY



### IC50 Neutralization

Virus Strain	Clade	PGT121	PGT122	PGT123	PGT124	PGT125	PGT126	PGT127	PGT128	PGT129	PGT130	PGT131	PGT132	PGT133	PGT134	PGT135	PGT136	PGT137	PGT138	PGT139	PGT140	PGT141
92R W008	A	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
92R W009	A	1.739	42.406	1.739	42.406	1.739	42.406	1.739	42.406	1.739	42.406	1.739	42.406	1.739	42.406	1.739	42.406	1.739	42.406	1.739	42.406	1.739
92R W020	A	0.004	0.009	0.002	0.004	0.006	0.01	0.005	0.039	0.168	0.067	2.335	0.005	>50	>50	>50	>50	>50	>50	>50	>50	>50
92R W021	A	0.009	0.021	0.005	0.005	0.006	0.011	0.005	0.004	0.012	>50	>50	3.516	>50	>50	>50	>50	>50	>50	>50	>50	>50
92R W024	A	>50	>50	>50	35.53	41.995	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	0.175
92R W026	A	0.014	0.036	0.012	0.007	0.008	0.024	0.01	0.037	0.041	0.068	>50	0.092	1.781	>50	>50	>50	>50	>50	>50	>50	>50
92UG031	A	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	0.093	>50	>50	>50	>50	>50	>50	>50	>50
92UG037	A	0.031	0.068	0.023	0.005	0.011	0.014	0.006	0.061	0.048	3.672	>50	>50	1.276	>50	>50	>50	>50	>50	>50	>50	>50
93R W029	A	>50	>50	>50	>50	>50	>50	>50	34.264	>50	>50	>50	>50	0.019	>50	>50	>50	>50	>50	>50	>50	>50
93UG077	A	0.019	0.084	0.028	0.012	0.02	0.053	0.014	21.392	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50
94UG103	A	2.518	2.041	0.678	0.008	0.008	0.017	0.011	1.402	1.097	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50

## Paired Heatmaps Output - Two Studies



Submit your data at [www.bNAber.org](http://www.bNAber.org) today or contact [support@bnaber.org](mailto:support@bnaber.org)