

S3 Data. TM-site results of the complete pB263R model.

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COACH results for job CH037519

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COACH Results

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Click to view	Rank	C-score	Cluster size	PDB Hit	Lig Name	Download Complex	Consensus Binding Residues
<input checked="" type="radio"/>	1	0.26	32	1qn4A	Nuc.Acid	Rep , Mult	52,54,90,91,108,110,113,115,117,157,158,160,200,201,205,207,217,219,229,232
<input type="radio"/>	2	0.24	29	1qn6A	Nuc.Acid	Rep , Mult	49,50,52,89,90,95,98,104,106,108,119,120,160,201,202,219,221,223,225,227
<input type="radio"/>	3	0.02	2	5iy8P	Nuc.Acid	Rep , Mult	50,97,108,119,202,219,221,223,225,227
<input type="radio"/>	4	0.01	1	1clqA	CA	N/A	52,54,78
<input type="radio"/>	5	0.01	1	3ju5C	MG	N/A	45,73,79
<input type="radio"/>	6	0.01	1	N/A	N/A	N/A	52,117,119
<input type="radio"/>	7	0.01	1	3shyA	MG	N/A	57,102
<input type="radio"/>	8	0.01	2	2b3zA	ZN	N/A	35,53,59
<input type="radio"/>	9	0.01	1	2l0oA	ZN	N/A	150,153
<input type="radio"/>	10	0.01	1	1frvB	F3S	N/A	155,164

[Download](#) the residue-specific binding probability, which is estimated by SVM.

[Download](#) the predicted bound ligands and detailed prediction summary.

[Download](#) the templates clustering results.

- (a) **C-score** is the confidence score of the prediction. C-score ranges [0-1], where a higher score indicates a more reliable prediction.
(b) **Cluster size** is the total number of templates in a cluster.
(c) **Lig Name** is the name of possible binding ligand. Click the ligand name to view its information in [the Biol_IP database](#).
(d) **Rep** is a single complex structure with the most representative ligand in the cluster, i.e., the one listed in the **Lig Name** column.
Mult is the complex structures with all potential binding ligands in the cluster.

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TM-SITE Results

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Click to view	Rank	C-score ^a	Cluster size ^b	Rep Templ ^c	Mult Templ ^d	Ligands ^e	Predicted binding site residues
<input type="radio"/> <input type="radio"/>	1	0.39	32	1qn4A_BS01_NUC Download NUC(32)			52,54,90,91,108,110,113,115,117,157,158,160,200,201,205,207,217,219,229,232
<input type="radio"/> <input type="radio"/>	2	0.37	27	1qn4A_BS02_NUC Download NUC(27)			49,50,52,89,90,95,98,104,106,108,119,120,160,201,202,219,221,223,225,227
<input type="radio"/> <input type="radio"/>	3	0.19	3	5mfQ_BS02_NUC Download NUC(3)			49,50,88,89,90,91,93,95,97,104,106,108,110,119,120,122,201,202,221,223,225
<input type="radio"/> <input type="radio"/>	4	0.16	1	5fz5O_BS01_NUC Download NUC(1)			52,54,60,90,110,112,115,117,158,201,229
<input type="radio"/> <input type="radio"/>	5	0.16	1	5fz5O_BS02_NUC Download NUC(1)			49,50,52,89,90,95,99,106,108,119,202

(a) **C-score** is the confidence score of predicted binding site. C-score ranges [0-1], where a higher score indicates a more reliable prediction.

(b) **Cluster size** is the number of templates in a cluster.

(c) **Rep Templ** presents a representative ligand-protein template from a cluster. The template names are: (PDBIDchain)_(BioLiP site #)_(Ligand ID). Click the corresponding template to download the structure.

(d) **Mult Templ** provides all ligand-protein complex structures in a cluster, where each ligand is separated by "TER".

(e) **Ligands** lists all ligands in a cluster. The numbers in the parentheses are the appearing times of the corresponding ligands. Click the ligand name to visualize its detailed information in BioLiP.

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Click to view	Rank	C-score ^a	Cluster size ^b	Templates ^c	Ligands ^d	Predicted binding site residues
<input type="radio"/> <input type="radio"/>	1	0.18	2	List	MG(1) , ZN(1)	30,35,53,59,64
<input type="radio"/> <input type="radio"/>	2	0.18	2	List	F3S(1) , ZN(1)	35,37,53,59,155,164
<input type="radio"/> <input type="radio"/>	3	0.17	2	List	MG(1) , CA(1)	52,54,57,78,102
<input type="radio"/> <input type="radio"/>	4	0.15	1	List	MG(1)	1,3
<input type="radio"/> <input type="radio"/>	5	0.15	1	List	ZN(1)	150,153

(a) **C-score** is the confidence score of predicted binding site. C-score ranges [0-1], where a higher score indicates a more reliable prediction.

(b) **Cluster size** is the number of templates in a cluster.

(c) **Templates** presents the list of templates in a cluster. The template names are: (PDBIDchain)_(BioLiP site #)_(Ligand ID). Click the corresponding template to search the BioLiP database. When the number of templates is >5, click "show all templates" to get the list of all templates in the cluster

(d) **Ligands** lists ligands in a cluster. The numbers in the parentheses are the appearing times for the corresponding ligands. Click the ligand name to visualize its detailed information in BioLiP.

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Click to view	Rank	C-score ^a	PDB Hit	TM-score	RMSD ^b	IDEN ^c	Cov ^d	BS-score ^e	Lig. Name	Download Complex	Predicted binding site residues
<input type="radio"/>	1	0.08	1ytbA	0.655	1.32	0.167	0.684	0.65	Nuc.Acids	Download	89,90,95,97,106,108,110,112,115,117,119,157,158,160,217,219,221,225,227,229,230
<input type="radio"/>	2	0.01	5fmfQ	0.655	1.31	0.167	0.684	0.57	Nuc.Acids	Download	117,157,158,208,219,229,232

- (a) **C-score** is the confidence score of predicted binding site. C-score values range in between [0-1]; where a higher score indicates a more reliable prediction.
- (b) **RMSD** the RMSD between residues that are structurally aligned by TM-align.
- (c) **IDEN** is the percentage sequence identity in the structurally aligned region.
- (d) **Cov** represents the coverage of global structural alignment and is equal to the number of structurally aligned residues divided by length of the query protein.
- (e) **BS-score** is a measure of local similarity (sequence & structure) between template binding site and predicted binding site in the query structure. Based on large scale benchmarking analysis, we have observed that a BS-score >1 reflects a significant local match between the predicted and template binding site.

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FINDSITE Results

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No binding site was predicted by FINDSITE.

ConCavity Results

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Click to view	Rank	C-score	Predicted binding residues
<input type="radio"/>	1	0.14	52,117,119
<input type="radio"/>	2	0.12	201,205,219,227
<input type="radio"/>	3	0.12	63,84,85,86,87,89,90,92,95

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Please cite the following articles when you use the COACH server:

1. Jianyi Yang, Amrishi Roy and Yang Zhang, *Protein-ligand binding site recognition using complementary binding-specific substructure comparison and sequence profile alignment*, Bioinformatics, 29: 2588-2595 (2013) ([download the PDF file](#))
2. Jianyi Yang, Amrishi Roy and Yang Zhang, *BioLIP: a semi-manually curated database for biologically relevant ligand-protein interactions.*, Nucleic Acids Research, 41: D1096-D1103 (2013) ([download the PDF file](#)).