

Inferring the function of a “hypothetical” protein MJ0226 by searching the AS-TRAL dataset with an unbound form (1b78).

The Table presents a list of proteins (top 400) whose binding sites were recognized to be similar to the ANP binding site of the “hypothetical” protein MJ0226 (1b78). The query site is defined by the cavity that is in contact with the ANP molecule in the PDB complex 2mjp. The proteins are listed in order of decreasing similarity to the query binding site.

Rank	PDB code	Match Score	t-score	p-value	SCOP Family	SCOP Remarks
1	1b78A	100	143	0.02	52973	None
2	2mjpA	81	118	0.46	52973	None
3	1k7kA	40	66	1.39	52973	complexed with mse
4	1ivwA	37	62	1.46	49999	None
5	1ax4A	36	60	1.49	53397	None
6	1uby	36	60	1.49	48577	complexed with dma, mg; mutant
7	1befA	35	59	1.51	50596	None
8	1ktkE	35	59	1.51	48727	None
9	1hv8A	35	59	1.51	81268	None
10	1bgxT	35	59	1.51	47808	None
11	1a81A	35	59	1.51	55551	None
12	1pf4A	35	59	1.51	52686	None
13	1iw7D	35	59	1.51	64490	None
14	1lfpA	35	59	1.51	75626	structural genomics
15	1d0nA	35	59	1.51	55754	None
16	1jqnA	35	59	1.51	51632	complexed with asp, dco, mn
17	1ihuA	35	59	1.51	52652	None
18	1j6wA	35	59	1.51	64294	None
19	1nw1A	35	59	1.51	90040	None
20	1ly1A	34	58	1.53	52541	complexed with so4
21	1a2vA	34	58	1.53	49999	None
22	1gsiA	34	58	1.53	52541	complexed with act, mg, so4, tmp
23	1ni4B	34	58	1.53	88741	None
24	3cyr	34	58	1.53	48696	complexed with hem
25	1p30A	34	58	1.53	0	None
26	1kyqA	34	58	1.53	75110	None
27	1gvhA	34	58	1.53	46463	complexed with cl, fad, hem, na
28	1h29A	34	58	1.53	48696	None
29	1ng7A	34	58	1.53	89044	None
30	1i78A	34	58	1.53	69918	None
31	2uagA	34	58	1.53	51985	complexed with adp, mg, uma
32	1fepA	34	58	1.53	56948	None
33	1j1nA	34	58	1.53	53851	None
34	1jm6A	34	58	1.53	69013	None
35	1k3pA	34	58	1.53	48257	None
36	19hcA	34	58	1.53	48696	None
37	1hlb	34	58	1.53	46463	complexed with hem
38	1oafA	34	58	1.53	48114	complexed with asc, hem, na

39	1fs7A	34	58	1.53	48711	complexed with act, ca, hem, y1
40	1mk4A	34	58	1.53	55730	None
41	1uxy	34	58	1.53	56184	complexed with epu, fad; mutant
42	1mkeA	34	58	1.53	50767	pseudo complex: fusion protein with a WIP peptide (res. 1-25) and a linker peptide (res. 26-30)
43	1i5zA	34	58	1.53	46796	None
44	1h6kA	34	58	1.53	48385	None
45	1lw7A	34	58	1.53	52397	complexed with mse, nad, so4
46	1i50A	34	58	1.53	64485	complexed with mn, zn
47	1itwA	33	57	1.55	82526	None
48	1fgjA	33	57	1.55	48711	None
49	1ojt	33	57	1.55	51943	None
50	1k9sA	33	57	1.55	53168	None
51	1k24A	33	57	1.55	75651	complexed with 1pe, zn
52	1ikpA	33	57	1.55	49962	complexed with cl, na; mutant
53	1efvB	33	57	1.55	52432	complexed with amp, fad
54	1lldA	33	57	1.55	51848	None
55	1pswA	33	57	1.55	89784	structural genomics
56	1lvl	33	57	1.55	51943	None
57	1iirA	33	57	1.55	64178	complexed with mg, so4
58	1n0uA	33	57	1.55	50448	complexed with so1
59	1mh9A	33	57	1.55	82382	complexed with mg, po4
60	1e3hA	33	57	1.55	46916	complexed with so4
61	1hm9A	33	57	1.55	51171	None
62	1g8mA	33	57	1.55	63971	None
63	1ivyA	33	57	1.55	53499	None
64	1g5aA	33	57	1.55	51012	complexed with epe, na, trs
65	1fo4A	33	57	1.55	47742	None
66	1qgwA	33	57	1.55	56569	None
67	1jqgA	33	57	1.55	53188	complexed with zn
68	1k94A	33	57	1.55	63550	None
69	1aye	33	57	1.55	53188	procarboxypeptidase A2
70	1jqeA	33	57	1.55	75261	None
71	1mukA	33	57	1.55	56694	None
72	1a8p	33	57	1.55	63381	complexed with fad
73	1nslA	33	57	1.55	55730	None
74	1ocyA	33	57	1.55	88875	complexed with cit, so4, zn
75	1dfmA	33	57	1.55	52993	None
76	1f20A	33	57	1.55	50438	complexed with fad, fnt, gol, nap
77	1j6zA	33	57	1.55	53068	None
78	1kk8A	33	57	1.55	50085	complexed with adp, bef, ca, gol, mg; mutant
79	1rlr	33	57	1.55	48169	None
80	1ek6A	33	57	1.55	51751	None
81	1nktA	33	57	1.55	81768	None
82	1ka1A	33	57	1.55	56656	complexed with a3p, bme, ca, mg
83	1mpxA	33	57	1.55	69222	None

84	153l	33	57	1.55	53987	None
85	1qbkB	33	57	1.55	48372	complexed with gnp, mg
86	1kv3A	33	57	1.55	81289	None
87	1n8fA	33	57	1.55	51599	None
88	1eulA	33	57	1.55	81652	complexed with ca
89	1gky	33	57	1.55	52541	complexed with 5gp, so4
90	1gm5A	33	57	1.55	69009	complexed with adp, mg
91	1j5sA	33	57	1.55	75082	None
92	1pvc1	33	57	1.55	88634	complexed with myr, sph
93	2sas	33	57	1.55	47502	complexed with ca
94	1e8gA	33	57	1.55	55104	None
95	1iq0A	33	57	1.55	47324	None
96	1n2eA	33	57	1.55	63976	None
97	1m1qA	33	57	1.55	48711	complexed with hem, sul
98	1b35A	33	57	1.55	88634	None
99	1ejdA	33	57	1.55	55209	None
100	2ezi	33	57	1.55	46728	None
101	1aqe	33	57	1.55	48696	complexed with hem, so4; mutant
102	1nstA	33	57	1.55	52575	complexed with a3p
103	1mm4A	33	57	1.55	82874	mutant
104	1chmA	33	57	1.55	53093	None
105	2pii	33	57	1.55	54914	None
106	1ehiA	33	57	1.55	52452	None
107	1nksA	33	57	1.55	52541	None
108	1nhp	33	57	1.55	51943	None
109	1cl1A	33	57	1.55	53402	None
110	1ksfX	33	57	1.55	81924	complexed with adp, ioh, met, mg, pge; mutant
111	1bg1A	33	57	1.55	47656	protein/DNA complex
112	1onfA	33	57	1.55	51943	None
113	1kssA	33	57	1.55	48711	complexed with fad, fum, hem, na; mu- tant
114	1ez0A	33	57	1.55	53721	None
115	1dxy	33	57	1.55	51830	complexed with coi, nad, so4
116	1jc4A	33	57	1.55	64257	None
117	1ndbA	33	57	1.55	82424	None
118	1ct9A	33	57	1.55	52403	None
119	1iw7C	33	57	1.55	64485	None
120	1csh	33	57	1.55	48257	complexed with amx, oaa
121	1kepA	33	57	1.55	51751	None
122	1k2yX	33	57	1.55	53739	None
123	1qkiA	33	57	1.55	51800	None
124	1a9xA	33	57	1.55	48109	None
125	1gz5A	33	57	1.55	82540	None
126	1j0hA	33	57	1.55	81282	None
127	1n8lA	33	57	1.55	47337	None
128	1p16A	33	57	1.55	50307	None
129	1kapP	33	57	1.55	51121	complexed with ca, zn

130	1k8tA	33	57	1.55	69887	complexed with ni, so4
131	1gosA	33	57	1.55	51913	None
132	1qo8A	33	57	1.55	48711	None
133	1i50B	33	57	1.55	64490	complexed with mn, zn
134	1bzyA	33	57	1.55	53272	None
135	1g9lA	33	57	1.55	63571	None
136	1emsA	33	57	1.55	54198	None
137	1ng2A	33	57	1.55	50045	None
138	1jnrA	33	57	1.55	46978	None
139	1j3kA	33	57	1.55	53598	None
140	1h6gA	33	57	1.55	47221	None
141	1hlwA	33	57	1.55	54920	mutant
142	1d7qA	33	57	1.55	50282	None
143	1dnpA	33	57	1.55	48174	None
144	1e2kA	33	57	1.55	52541	None
145	1oacA	33	57	1.55	49999	None
146	1ja1A	33	57	1.55	50438	None
147	1np7A	33	57	1.55	48174	None
148	1oahA	33	57	1.55	48711	None
149	1dzlA	33	57	1.55	88649	mutant
150	7reqA	33	57	1.55	51704	None
151	1bg2	33	57	1.55	52641	complexed with act, adp, mg
152	1nqeA	33	57	1.55	56948	complexed with c8e, mg
153	1hz4A	33	57	1.55	69094	complexed with bez, gol, so4
154	1n40A	32	55	1.58	48265	atomic resolution structure
155	1njka	32	55	1.58	54638	None
156	1dgtB	32	55	1.58	47786	complexed with amp, zn
157	1gmeA	32	55	1.58	49765	None
158	1ep0A	32	55	1.58	51183	None
159	1lla	32	55	1.58	48051	complexed with cl, cu, na
160	1b5tA	32	55	1.58	51731	None
161	1hyuA	32	55	1.58	51943	None
162	1howA	32	55	1.58	88854	residues 305-538 were deleted and replaced with Val-Asp
163	1k75A	32	55	1.58	69602	None
164	1jjuA	32	55	1.58	68956	None
165	1trb	32	55	1.58	51943	None
166	1nf5B	32	55	1.58	53452	None
167	1kqpA	32	55	1.58	52403	None
168	1mqsa	32	55	1.58	56816	complexed with an N-terminal peptide of sed5p, chain B
169	1g40A	32	55	1.58	57536	None
170	1k9oI	32	55	1.58	56575	Michaelis serpin-trypsin complex
171	1k4gA	32	55	1.58	51714	complexed with aiq, zn
172	1m1xB	32	55	1.58	69180	complexed with mn, nag
173	1qlaA	32	55	1.58	46978	None
174	1dg6A	32	55	1.58	49843	None
175	1aa6	32	55	1.58	50696	complexed with 4mo, cse, fs4, mgd

176	1kcw	32	55	1.58	49550	None
177	1lfo	32	55	1.58	50847	complexed with ace, beo, ola, unx
178	1cjcA	32	55	1.58	51906	complexed with fad
179	1g6oA	32	55	1.58	52670	None
180	1eybA	32	55	1.58	51194	None
181	1fkmA	32	55	1.58	47924	None
182	1e5dA	32	55	1.58	52219	None
183	2mysA	32	55	1.58	50085	complexed with mg, mly, so4
184	1m3eA	32	55	1.58	74656	None
185	1kbiA	32	55	1.58	51396	complexed with fmm, hem, mpd, po4, pyr
186	1hms	32	55	1.58	50847	complexed with ola
187	1ff2A	32	55	1.58	51943	None
188	1p35A	32	55	1.58	49895	None
189	1p3dA	32	55	1.58	51985	None
190	1i7oA	32	55	1.58	56530	None
191	1xvaA	32	55	1.58	53348	None
192	1byb	32	55	1.58	51446	complexed with glc, so4
193	1cipA	32	55	1.58	47896	complexed with gnp, mg
194	1h6vA	32	55	1.58	51943	None
195	1ld8A	32	55	1.58	48440	complexed with acy, fpp, suc, u49, zn
196	1ca1	32	55	1.58	48538	complexed with cd, zn
197	1o14A	32	55	1.58	53614	None
198	1ffyA	32	55	1.58	47324	protein/RNA complex; complexed with k, mo2, mo4, mo5, mo6, mrc, zn
199	1n4kA	32	55	1.58	81895	complexed with i3p
200	1e3mA	32	55	1.58	48335	None
201	1d9nA	32	55	1.58	54178	None
202	3btaA	32	55	1.58	49956	complexed with zn
203	1n8vA	32	55	1.58	81898	None
204	1hw6A	32	55	1.58	51431	complexed with cl, mg
205	1mv8A	32	55	1.58	48191	None
206	1k0mA	32	55	1.58	47617	None
207	1o75A	32	55	1.58	81987	None
208	1kxbA	32	55	1.58	53796	complexed with act, edo, gto, mn
209	1bif	32	55	1.58	52589	complexed with atg, gol, mg, po4; mutant
210	1a6dA	32	55	1.58	48596	None
211	3caoA	32	55	1.58	48696	complexed with ars, cgn, hem, zn
212	1omwA	32	55	1.58	48098	complexed with cmt; mutant
213	1h5qA	32	55	1.58	51751	None
214	1knvA	32	55	1.58	52999	None
215	1qj5A	32	55	1.58	53417	None
216	1h5wA	32	55	1.58	56827	None
217	1hynP	32	55	1.58	64362	None
218	1m53A	32	55	1.58	51012	None
219	1k6wA	32	55	1.58	69373	complexed with fe
220	1ezfA	32	55	1.58	48580	None

221	1i6lA	32	55	1.58	52375	complexed with gol, nh4, so4, tym
222	1a49A	32	55	1.58	50801	None
223	1slm	32	55	1.58	63427	complexed with ca, zn
224	1gweA	32	55	1.58	56635	complexed with hem, so4
225	1gyhA	32	55	1.58	75006	None
226	1l0gA	32	55	1.58	56602	None
227	1o0sA	32	55	1.58	51883	None
228	1n7oA	32	55	1.58	48234	mutant
229	1k28A	32	55	1.58	69256	complexed with k, po4
230	1cz4A	32	55	1.58	50708	None
231	1l5jA	32	55	1.58	74779	None
232	1ocrF	32	55	1.58	57818	None
233	1oxwA	32	55	1.58	89729	None
234	1odmA	32	55	1.58	51198	complexed with asv, fe2, so4
235	1a8i	32	55	1.58	53766	complexed with gls
236	3grs	32	55	1.58	51943	None
237	1c8bA	32	55	1.58	64095	None
238	2pia	32	55	1.58	63381	complexed with fes, fmn
239	1dl6A	32	55	1.58	57784	complexed with zn
240	1d2pA	32	55	1.58	49479	None
241	1e9xA	32	55	1.58	48265	complexed with hem, pim; mutant
242	3aky	32	55	1.58	52541	complexed with ap5, imd; mutant
243	1by5A	32	55	1.58	56948	complexed with c8e, fe, orn
244	1kk6A	32	55	1.58	51168	None
245	2cy3	32	55	1.58	48696	complexed with hem
246	1l1lA	32	55	1.58	75131	None
247	1d8cA	32	55	1.58	51646	None
248	1cq3A	32	55	1.58	49890	None
249	1ufhA	32	55	1.58	55730	None
250	1ciy	32	55	1.58	49796	None
251	1bjbA	32	55	1.58	49159	a single-chain construct with epsilon chain domain, includes part of the linker
252	1t7pA	32	55	1.58	53118	protein/DNA complex; complexed with 2da, dg3, mg; mutant
253	1kmoA	32	55	1.58	56948	complexed with hto, lda
254	1hr6B	32	55	1.58	63412	None
255	1g5bA	32	55	1.58	56310	None
256	1cgmE	32	55	1.58	47196	None
257	1htyA	32	55	1.58	88693	complexed with mpd, nag, trs, zn
258	1jr7A	32	55	1.58	63855	complexed with fe2
259	1c8uA	32	55	1.58	54644	None
260	1k28D	32	55	1.58	69280	None
261	1f3lA	32	55	1.58	53351	complexed with sah
262	1gvoA	32	55	1.58	51396	complexed with dnf, fmn
263	1jj2B	32	55	1.58	50461	complexed with cd, cl, k, mg, na
264	1jeyA	32	55	1.58	64502	None
265	1cii	32	55	1.58	56838	None

266	1ky9B	32	55	1.58	74933	None
267	1zakA	32	55	1.58	52541	None
268	1k8kA	32	55	1.58	53068	None
269	1hhsA	32	55	1.58	64480	None
270	1f0lA	32	55	1.58	49381	None
271	1gyoA	32	55	1.58	48696	None
272	1m1nB	32	55	1.58	53816	None
273	1epwA	32	55	1.58	49956	complexed with so4, zn
274	1cydA	32	55	1.58	51751	None
275	1bf6A	32	55	1.58	51564	None
276	2dpmA	32	55	1.58	88788	complexed with hg, sam
277	1f8rA	32	55	1.58	51913	None
278	1c8zA	32	55	1.58	54519	None
279	3ladA	32	55	1.58	51943	None
280	1kblA	32	55	1.58	51629	complexed with nh4, so4
281	1hyhA	32	55	1.58	51848	None
282	1rypC	32	55	1.58	56251	None
283	1n5uA	32	55	1.58	48553	None
284	1lehA	32	55	1.58	51883	None
285	1gp6A	32	55	1.58	51198	complexed with dh2, fe2, mes, que, sin
286	1oaa	32	55	1.58	51751	complexed with nap, oaa, so4
287	4fiv	32	55	1.58	50631	complexed with 1ni
288	1esmA	32	55	1.58	52584	None
289	1lshA	32	55	1.58	48432	complexed with pca, pld, upl
290	1lkxA	32	55	1.58	52641	None
291	1fohA	32	55	1.58	51913	None
292	1gkuB	32	55	1.58	69496	None
293	1dquA	32	55	1.58	88704	None
294	1dnv	32	55	1.58	88647	None
295	1pda	32	55	1.58	53851	complexed with acy, dpm
296	1poxA	32	55	1.58	52475	None
297	1dekA	32	55	1.58	52541	None
298	1inp	32	55	1.58	56656	complexed with mg
299	1qkrA	32	55	1.58	47221	None
300	1m6iA	32	55	1.58	51943	None
301	1d2oA	32	55	1.58	49479	None
302	1kmmA	32	55	1.58	52955	None
303	1hsjA	32	55	1.58	63379	None
304	1gegA	32	55	1.58	51751	None
305	1nijA	32	55	1.58	52652	CASP5
306	1jehA	32	55	1.58	51943	None
307	1kjuA	32	55	1.58	50045	complexed with so4
308	1kn0A	32	55	1.58	82645	None
309	1fsgA	32	55	1.58	53272	None
310	1e79A	32	55	1.58	47918	None
311	1iatA	32	55	1.58	53701	complexed with bme, sul
312	1c8dA	32	55	1.58	88646	complexed with ca
313	1jj2N	32	55	1.58	52081	complexed with cd, cl, k, mg, na

314	1ni3A	32	55	1.58	52592	complexed with mse, so4
315	1kcmA	32	55	1.58	64388	None
316	1jalA	32	55	1.58	52592	None
317	1egaA	32	55	1.58	52592	None
318	1gteA	32	55	1.58	46553	None
319	1fm0E	32	55	1.58	54691	complexed with Moad
320	1gx5A	32	55	1.58	56694	complexed with gtp, mn, mse
321	1mioB	32	55	1.58	53816	None
322	1mo9A	32	55	1.58	51943	None
323	1hjxA	32	55	1.58	51534	None
324	1jeqA	32	55	1.58	68907	None
325	1kkhA	32	55	1.58	54232	complexed with dio
326	1k8kD	32	55	1.58	69646	None
327	1eqgA	32	55	1.58	48132	None
328	1eqgA	32	55	1.58	48132	None
329	1qnf	32	55	1.58	48174	complexed with fad, hdf
330	1cc1L	32	55	1.58	56763	complexed with cse, fco, fe2, fs4, h2s, ni
331	1kzhA	32	55	1.58	53785	None
332	1oc7A	32	55	1.58	51990	complexed with act, bgc, dmf, gol, ma3, mg, nag, sgc; mutant
333	1iqrA	32	55	1.58	48174	complexed with fad, po4
334	1gskA	32	55	1.58	49550	None
335	1j0mA	32	55	1.58	48234	complexed with ca
336	1j18A	32	55	1.58	49453	complexed with acy, ca, glc, so4
337	1eu1A	32	55	1.58	50696	complexed with 6mo, cd, epe, glc, mgd, ox, so4
338	1n7dA	32	55	1.58	63826	complexed with ca, keg, man, nag; mutant
339	1a3wA	32	55	1.58	50801	None
340	1qovL	32	55	1.58	81482	None
341	1o6lA	32	55	1.58	88854	complexed with anp, mn, tpo; mutant
342	3thiA	32	55	1.58	53851	complexed with so4
343	1gpuA	32	55	1.58	88735	None
344	1ekfA	32	55	1.58	56753	None
345	1m6nA	32	55	1.58	81768	complexed with so4
346	1aky	32	55	1.58	52541	complexed with ap5, imd
347	1fwxA	32	55	1.58	63392	None
348	1qp8A	32	55	1.58	51830	None
349	1dxrH	32	55	1.58	50347	complexed with bcb, bpb, fe2, hec, lda, mq9, mst, ns5, so4; mutant
350	5eau	32	55	1.58	48240	complexed with fff, mg; mutant
351	1fnnA	32	55	1.58	46819	None
352	1jidA	32	55	1.58	69696	complexed with a23, bro, mo3; mutant
353	1ddf	32	55	1.58	81312	None
354	1nfp	32	55	1.58	51683	complexed with fmn, myr, so4
355	1fzpB	32	55	1.58	63379	protein/DNA complex; complexed with ca

356	1mswD	32	55	1.58	56691	elongation complex; shows dramatic conformational changes in the transition from initiation to elongation transcription
357	1jbwA	32	55	1.58	53250	complexed with acq, mg, tmf
358	1oyb	32	55	1.58	51396	complexed with fmn, hba
359	1i50I	32	55	1.58	57784	None
360	1k32A	32	55	1.58	68933	None
361	1ou5A	32	55	1.58	81892	None
362	1qm9A	32	55	1.58	54929	None
363	1m2kA	32	55	1.58	63984	complexed with apr, zn; mutant
364	1qaxA	32	55	1.58	55036	None
365	1nekA	32	55	1.58	46978	complexed with ca, cdn, eph, f3s, fad, fes, fs4, hem, oaa, uq2
366	1a7j	32	55	1.58	52584	complexed with so4
367	1d09B	32	55	1.58	54894	None
368	4bcl	32	55	1.58	51082	complexed with bcl
369	2shpA	32	55	1.58	52805	None
370	1nbaA	32	55	1.58	52500	None
371	1qksA	32	55	1.58	46671	None
372	1ji6A	32	55	1.58	49796	None
373	1aqcA	32	55	1.58	50755	None
374	1ezvB	32	55	1.58	63412	None
375	1d0cA	32	55	1.58	56513	None
376	1fknA	32	55	1.58	50646	None
377	1e6uA	32	55	1.58	51751	complexed with nap, so4, trs, uvw
378	1jfaA	32	55	1.58	69113	None
379	1i8oA	32	55	1.58	46627	complexed with hec, nh3, sul
380	1ih7A	32	55	1.58	53118	complexed with gmp, k
381	1obdA	32	55	1.58	56105	complexed with ace, amp, atp, mg, so4
382	1m6sA	32	55	1.58	53384	None
383	1f89A	32	55	1.58	56318	None
384	1jnrB	32	55	1.58	54884	None
385	1fbnA	32	55	1.58	53342	structural genomics
386	1l0lB	32	55	1.58	63412	None
387	1jyoE	32	55	1.58	69868	None
388	1c0aA	32	55	1.58	50250	None
389	1m1cA	31	54	1.60	82857	None
390	1mwvA	31	54	1.60	74753	None
391	1i7pA	31	54	1.60	63381	complexed with fad
392	1eny	31	54	1.60	51751	complexed with nad
393	1cvuA	31	54	1.60	48132	None
394	3gcb	31	54	1.60	54002	complexed with gol, so4; mutant
395	6mhtA	31	54	1.60	88786	protein/DNA complex; complexed with 4sc, 5mc, sam
396	1e58A	31	54	1.60	53255	complexed with cl, phs, so4; mutant
397	1azsC	31	54	1.60	47896	complexed with fkp, gsp, mg; mutant
398	1ltzA	31	54	1.60	56535	complexed with cl, fe, hbl

399	1tubB	31	54	1.60	52491	complexed with gdp, gtp, txl
400	1e6tA	31	54	1.60	55406	None