

## Inferring the function of a “hypothetical” protein MJ0226 by searching the AS-TRAL dataset with a bound form (2mjp).

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 (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	2mjpA	100	304	0.02	52973	structural genomics
2	1b78A	79	228	0.50	52973	None
3	1k7kA	43	97	1.33	52973	complexed with mse
4	1j6wA	39	82	1.42	64294	None
5	1larA	37	75	1.46	52805	None
6	1aky	36	71	1.49	52541	complexed with ap5, imd
7	3caoA	36	71	1.49	48696	complexed with ars, cgn, hem, zn
8	1b35A	36	71	1.49	88634	None
9	1pf4A	36	71	1.49	52686	None
10	1n08A	36	71	1.49	82115	None
11	1azsC	36	71	1.49	47896	complexed with fkp, gsp, mg; mutant
12	1ly1A	36	71	1.49	52541	complexed with so4
13	1kyqA	36	71	1.49	75110	None
14	1h29A	36	71	1.49	48696	None
15	1iv8A	36	71	1.49	51012	complexed with mly, mlz
16	1dxrH	36	71	1.49	50347	complexed with bcb, bpb, fe2, hec, lda, mq9, mst, ns5, so4; mutant
17	1pvc1	35	68	1.51	88634	complexed with myr, sph
18	1g40A	35	68	1.51	57536	None
19	1fo4A	35	68	1.51	47742	None
20	1kk8A	35	68	1.51	50085	complexed with adp, bef, ca, gol, mg; mutant
21	1knvA	35	68	1.51	52999	None
22	1n7hA	35	68	1.51	51751	None
23	1hskA	35	68	1.51	56184	complexed with fad
24	3btaA	35	68	1.51	49956	complexed with zn
25	1a0cA	35	68	1.51	51665	None
26	1hv8A	35	68	1.51	81268	None
27	1cipA	35	68	1.51	47896	complexed with gnp, mg
28	1qkrA	35	68	1.51	47221	None
29	1ec7A	35	68	1.51	51609	None
30	1hyuA	35	68	1.51	51943	None
31	1fgjA	35	68	1.51	48711	None
32	1j34A	35	68	1.51	56437	complexed with ca, cgu, mg
33	1jjuA	35	68	1.51	68956	None
34	1ng2A	35	68	1.51	50045	None
35	1t7pA	35	68	1.51	53118	protein/DNA complex; complexed with 2da, dg3, mg; mutant
36	1lfpA	35	68	1.51	75626	structural genomics

37	1ltqA	35	68	1.51	82385	complexed with adp, dms, mse
38	1i50A	35	68	1.51	64485	complexed with mn, zn
39	1qbkB	35	68	1.51	48372	complexed with gnp, mg
40	1befA	35	68	1.51	50596	None
41	1gsiA	35	68	1.51	52541	complexed with act, mg, so4, tmp
42	1i7oA	35	68	1.51	56530	None
43	1ocyA	34	64	1.53	88875	complexed with cit, so4, zn
44	1iw7C	34	64	1.53	64485	None
45	1n10A	34	64	1.53	49591	None
46	1kekA	34	64	1.53	88746	None
47	1gyoA	34	64	1.53	48696	None
48	1a81A	34	64	1.53	55551	None
49	1n7dA	34	64	1.53	63826	complexed with ca, keg, man, nag; mutant
50	1rypD	34	64	1.53	56251	None
51	1c8dA	34	64	1.53	88646	complexed with ca
52	1ek6A	34	64	1.53	51751	None
53	1dx5I	34	64	1.53	57197	None
54	3aky	34	64	1.53	52541	complexed with ap5, imd; mutant
55	1jc4A	34	64	1.53	64257	None
56	2btvA	34	64	1.53	56832	None
57	1h0hA	34	64	1.53	50696	None
58	1esmA	34	64	1.53	52584	None
59	1nslA	34	64	1.53	55730	None
60	1ih7A	34	64	1.53	53118	complexed with gmp, k
61	1ja1A	34	64	1.53	50438	None
62	1k9oI	34	64	1.53	56575	Michaelis serpin-trypsin complex
63	1mdbA	34	64	1.53	56802	complexed with amp, dbh, so4
64	1kx5B	34	64	1.53	47114	None
65	1mkeA	34	64	1.53	50767	pseudo complex: fusion protein with a WIP peptide (res. 1-25) and a linker peptide (res. 26-30)
66	1e3hA	34	64	1.53	46916	complexed with so4
67	1ft5A	34	64	1.53	48711	complexed with hem, ips
68	1fepA	34	64	1.53	56948	None
69	1iw7D	34	64	1.53	64490	None
70	1i50I	34	64	1.53	57784	None
71	1qj5A	34	64	1.53	53417	None
72	1g6oA	34	64	1.53	52670	None
73	2uagA	34	64	1.53	51985	complexed with adp, mg, uma
74	1i50B	34	64	1.53	64490	complexed with mn, zn
75	1ng7A	34	64	1.53	89044	None
76	1pswA	34	64	1.53	89784	structural genomics
77	1k94A	34	64	1.53	63550	None
78	1jqgA	34	64	1.53	53188	complexed with zn
79	1nfp	34	64	1.53	51683	complexed with fmn, myr, so4
80	2pia	34	64	1.53	63381	complexed with fes, fmn
81	1aozA	34	64	1.53	49550	None

82	1gdhA	34	64	1.53	51830	None
83	1l11A	34	64	1.53	75131	None
84	1j5sA	34	64	1.53	75082	None
85	1setA	34	64	1.53	46590	None
86	1bg2	34	64	1.53	52641	complexed with act, adp, mg
87	1kskA	34	64	1.53	75459	None
88	1lw7A	34	64	1.53	52397	complexed with mse, nad, so4
89	1jeqA	34	64	1.53	68907	None
90	1bg1A	34	64	1.53	47656	protein/DNA complex
91	1jwiB	34	64	1.53	56437	None
92	1a8p	34	64	1.53	63381	complexed with fad
93	1kjqA	34	64	1.53	51247	None
94	2u2fA	34	64	1.53	54929	second RNA-binding domain
95	1dquA	34	64	1.53	88704	None
96	1m4uA	34	64	1.53	82904	complexed with nag
97	1dnt	34	64	1.53	88647	None
98	1i12A	34	64	1.53	55730	None
99	1e7wA	34	64	1.53	51751	None
100	2dpmA	34	64	1.53	88788	complexed with hg, sam
101	1j1nA	34	64	1.53	53851	None
102	1hs6A	34	64	1.53	63608	complexed with act, bes, imd, yb, zn
103	1mjhA	34	64	1.53	52436	None
104	1d0nA	34	64	1.53	55754	None
105	1nqeA	34	64	1.53	56948	complexed with c8e, mg
106	19hcA	34	64	1.53	48696	None
107	1vpsA	34	64	1.53	88649	None
108	1pb7A	34	64	1.53	53851	complexed with gly
109	1k6wA	34	64	1.53	69373	complexed with fe
110	1o6lA	34	64	1.53	88854	complexed with anp, mn, tpo; mutant
111	1vfrA	34	64	1.53	55470	None
112	1k0mA	34	64	1.53	47617	None
113	1k1xA	34	64	1.53	89013	None
114	1n7oA	34	64	1.53	48234	mutant
115	2pii	34	64	1.53	54914	None
116	1bjbA	34	64	1.53	49159	a single-chain construct with epsilon chain domain, includes part of the linker
117	1g8mA	34	64	1.53	63971	None
118	1i8tA	34	64	1.53	69427	None
119	1mixA	34	64	1.53	47032	None
120	1gqeA	34	64	1.53	75621	complexed with mse; mutant
121	1nijA	34	64	1.53	52652	CASP5
122	1kqpA	34	64	1.53	52403	None
123	1h99A	34	64	1.53	63521	None
124	1d9nA	34	64	1.53	54178	None
125	1h6kA	34	64	1.53	48385	None
126	1dzlA	34	64	1.53	88649	mutant
127	1j7lA	34	64	1.53	64411	None

128	luby	34	64	1.53	48577	complexed with dma, mg; mutant
129	lgl4A	34	64	1.53	64244	complexed with epe, zn
130	livsA	34	64	1.53	81635	None
131	lgmeA	34	64	1.53	49765	None
132	lksiA	34	64	1.53	49999	None
133	li78A	34	64	1.53	69918	None
134	ljnrB	34	64	1.53	54884	None
135	ldar	34	64	1.53	50448	complexed with gdp
136	luxy	34	64	1.53	56184	complexed with epu, fad; mutant
137	llldA	34	64	1.53	51848	None
138	livwA	34	64	1.53	49999	None
139	ljm6A	34	64	1.53	69013	None
140	le8gA	33	60	1.55	55104	None
141	le8cA	33	60	1.55	63419	None
142	ldfmA	33	60	1.55	52993	None
143	ljv1A	33	60	1.55	53461	None
144	lja9A	33	60	1.55	51751	complexed with ndp, pyq
145	lihuA	33	60	1.55	52652	None
146	llkxA	33	60	1.55	52641	None
147	lg60A	33	60	1.55	53377	None
148	laye	33	60	1.55	53188	procarboxypeptidase A2
149	lbvp1	33	60	1.55	48346	None
150	lj9aA	33	60	1.55	53118	CASP4
151	ldekA	33	60	1.55	52541	None
152	lmukA	33	60	1.55	56694	None
153	lp16A	33	60	1.55	50307	None
154	lj0mA	33	60	1.55	48234	complexed with ca
155	loacA	33	60	1.55	49999	None
156	legaA	33	60	1.55	52592	None
157	ldro	33	60	1.55	50730	None
158	lmpiA	33	60	1.55	49971	complexed with nag
159	lhz4A	33	60	1.55	69094	complexed with bez, gol, so4
160	7reqA	33	60	1.55	51704	None
161	lgk8A	33	60	1.55	51650	None
162	ldgtB	33	60	1.55	47786	complexed with amp, zn
163	lksfX	33	60	1.55	81924	complexed with adp, ioh, met, mg, pge; mutant
164	lfknA	33	60	1.55	50646	None
165	ljj2C	33	60	1.55	52167	complexed with cd, cl, k, mg, na
166	lgm5A	33	60	1.55	69009	complexed with adp, mg
167	lfftC	33	60	1.55	81451	None
168	lgwuA	33	60	1.55	48114	complexed with act, ca, hem, na; mu- tant
169	lojt	33	60	1.55	51943	None
170	lchuA	33	60	1.55	46978	None
171	lvdc	33	60	1.55	51943	None
172	lb5tA	33	60	1.55	51731	None
173	ltrb	33	60	1.55	51943	None

174	2bpa2	33	60	1.55	49612	None
175	1i6lA	33	60	1.55	52375	complexed with gol, nh4, so4, tym
176	1k3pA	33	60	1.55	48257	None
177	1kmoA	33	60	1.55	56948	complexed with hto, lda
178	1f0xA	33	60	1.55	55109	None
179	1k8tA	33	60	1.55	69887	complexed with ni, so4
180	1f0lA	33	60	1.55	49381	None
181	1d7qA	33	60	1.55	50282	None
182	1lvk	33	60	1.55	50085	complexed with bef, mg, mnt; mutant
183	1dmtA	33	60	1.55	55502	complexed with gol, nag, rdf, zn
184	1by5A	33	60	1.55	56948	complexed with c8e, fe, orn
185	1jeyA	33	60	1.55	64502	None
186	1onfA	33	60	1.55	51943	None
187	1c8uA	33	60	1.55	54644	None
188	1ps1A	33	60	1.55	48586	None
189	1jyKA	33	60	1.55	68901	None
190	1l0lB	33	60	1.55	63412	None
191	1fp0A	33	60	1.55	57911	complexed with zn
192	1j58A	33	60	1.55	51187	complexed with fnt, mg, mn, mse
193	1qp8A	33	60	1.55	51830	None
194	2oatA	33	60	1.55	53417	None
195	1lshA	33	60	1.55	48432	complexed with pca, pld, upl
196	1ktkE	33	60	1.55	48727	None
197	1a06	33	60	1.55	88854	None
198	1dabA	33	60	1.55	51153	None
199	1bupA	33	60	1.55	53068	None
200	1e8xA	33	60	1.55	48399	complexed with atp, lu; mutant
201	1hr6A	33	60	1.55	63412	None
202	1gp6A	33	60	1.55	51198	complexed with dh2, fe2, mes, que, sin
203	1kmvA	33	60	1.55	53598	complexed with dms, lli, ndp, sul
204	4fiv	33	60	1.55	50631	complexed with lni
205	1byb	33	60	1.55	51446	complexed with glc, so4
206	1f13A	33	60	1.55	81289	None
207	1zakA	33	60	1.55	52541	None
208	1oaa	33	60	1.55	51751	complexed with nap, oaa, so4
209	1gxeA	33	60	1.55	49159	None
210	1mg2D	33	60	1.55	46627	None
211	1fjeB	33	60	1.55	54929	None
212	1bfd	33	60	1.55	52475	complexed with ca, mg, tpp
213	1fs7A	33	60	1.55	48711	complexed with act, ca, hem, y1
214	1tdj	33	60	1.55	53687	CASP2
215	1c8zA	33	60	1.55	54519	None
216	1mh9A	33	60	1.55	82382	complexed with mg, po4
217	1mh9A	33	60	1.55	82382	complexed with mg, po4
218	1hm9A	33	60	1.55	51171	None
219	1jscA	33	60	1.55	52475	None
220	1ngvA	33	60	1.55	89763	None
221	1fiuA	33	60	1.55	53008	None

222	1aqcA	33	60	1.55	50755	None
223	1inp	33	60	1.55	56656	complexed with mg
224	1xvaA	33	60	1.55	53348	None
225	1k24A	33	60	1.55	75651	complexed with 1pe, zn
226	1l8qA	33	60	1.55	81695	complexed with adp, mg, mse
227	1j6zA	33	60	1.55	53068	None
228	1hqsA	33	60	1.55	53660	None
229	1i52A	33	60	1.55	68901	complexed with ca, ctp, mg
230	1tgoA	33	60	1.55	53118	None
231	1qsmA	33	60	1.55	55730	None
232	1kncA	33	60	1.55	69119	None
233	1h5qA	33	60	1.55	51751	None
234	1j8uA	33	60	1.55	56535	complexed with fe2, thb
235	1o0sA	33	60	1.55	51883	None
236	2tpsA	33	60	1.55	51392	None
237	1e44B	33	60	1.55	63841	complexed with edo
238	1c0mA	33	60	1.55	50123	None
239	1nw9B	33	60	1.55	52130	complexed to the xiap-bir3
240	1p3dA	33	60	1.55	51985	None
241	1fmk	33	60	1.55	50045	None
242	1h7sA	33	60	1.55	54224	None
243	1kzhA	33	60	1.55	53785	None
244	1zin	33	60	1.55	52541	complexed with ap5, zn
245	1jeyB	33	60	1.55	64505	None
246	2cy3	33	60	1.55	48696	complexed with hem
247	1f2A	33	60	1.55	51943	None
248	1f52A	33	60	1.55	54369	None
249	1mvfD	33	60	1.55	89448	None
250	1mtyD	33	60	1.55	47253	None
251	1g5aA	33	60	1.55	51012	complexed with epe, na, trs
252	1l0lA	33	60	1.55	63412	None
253	1dnpA	33	60	1.55	48174	None
254	1ni5A	33	60	1.55	82359	complexed with mse
255	1o97D	33	60	1.55	52432	complexed with amp, fad
256	1e58A	33	60	1.55	53255	complexed with cl, phs, so4; mutant
257	1gteA	33	60	1.55	46553	None
258	1m1qA	33	60	1.55	48711	complexed with hem, sul
259	1iwgA	33	60	1.55	82694	None
260	1ni3A	33	60	1.55	52592	complexed with mse, so4
261	1g0sA	33	60	1.55	55812	None
262	1gh9A	33	60	1.55	57822	None
263	1e8uA	33	60	1.55	50940	None
264	1kr4A	33	60	1.55	75434	structural genomics
265	1chmA	33	60	1.55	53093	None
266	1gkuB	33	60	1.55	69496	None
267	1hr6B	33	60	1.55	63412	None
268	1kutA	33	60	1.55	56105	None
269	1itwA	33	60	1.55	82526	None

270	12asA	33	60	1.55	55682	None
271	1qgwA	33	60	1.55	56569	None
272	1ct9A	33	60	1.55	52403	None
273	3rabA	33	60	1.55	52592	complexed with gnp, mg
274	1kssA	33	60	1.55	48711	complexed with fad, fum, hem, na; mutant
275	1bucA	33	60	1.55	47204	None
276	1ekfA	33	60	1.55	56753	None
277	1ndbA	33	60	1.55	82424	None
278	1gosA	33	60	1.55	51913	None
279	1lmeA	33	60	1.55	56421	None
280	1jqeA	33	60	1.55	75261	None
281	1k4tA	33	60	1.55	46597	complexed with hg, pg4, ptr, tgp, ttc, ttg
282	1cc1L	33	60	1.55	56763	complexed with cse, fco, fe2, fs4, h2s, ni
283	1ixdA	33	60	1.55	74925	None
284	1howA	33	60	1.55	88854	residues 305-538 were deleted and replaced with Val-Asp
285	1d2nA	33	60	1.55	81269	complexed with anp, gol, mg
286	1mt5A	33	60	1.55	75305	None
287	1b8oA	33	60	1.55	53168	complexed with imh, mg, po4
288	1lla	33	60	1.55	48051	complexed with cl, cu, na
289	1aqe	33	60	1.55	48696	complexed with hem, so4; mutant
290	1m6iA	33	60	1.55	51943	None
291	1ou5A	33	60	1.55	81892	None
292	1h6dA	33	60	1.55	51800	None
293	1gy8A	33	60	1.55	51751	None
294	1e7lA	33	60	1.55	68919	None
295	1lxnA	33	60	1.55	89958	None
296	1j18A	33	60	1.55	49453	complexed with acy, ca, glc, so4
297	1ofdA	33	60	1.55	69337	None
298	1ewqA	33	60	1.55	48335	None
299	1h6vA	33	60	1.55	51943	None
300	1qhoA	33	60	1.55	81282	complexed with abd, ca, mal, so4
301	1k4zA	33	60	1.55	69341	None
302	3thiA	33	60	1.55	53851	complexed with so4
303	1hbnA	33	60	1.55	48082	None
304	1ky9A	33	60	1.55	74933	None
305	1k6yA	33	60	1.55	46920	None
306	1jtgB	33	60	1.55	55649	None
307	1ufhA	33	60	1.55	55730	None
308	1dg6A	33	60	1.55	49843	None
309	1oahA	33	60	1.55	48711	None
310	1io1A	33	60	1.55	64519	mutant
311	1c8bA	33	60	1.55	64095	None
312	1kzkA	33	60	1.55	50631	None
313	1omwA	33	60	1.55	48098	complexed with cmt; mutant

314	1n8yC	33	60	1.55	52071	None
315	1csh	33	60	1.55	48257	complexed with amx, oaa
316	1e1oA	33	60	1.55	50250	complexed with gol, lys
317	1qnxA	33	60	1.55	55798	complexed with na
318	1oc7A	33	60	1.55	51990	complexed with act, bgc, dmf, gol, ma3, mg, nag, sgc; mutant
319	1k87A	33	60	1.55	81936	complexed with 1pe, fad, gol, lac, trs
320	1e9xA	33	60	1.55	48265	complexed with hem, pim; mutant
321	1fh6A	33	60	1.55	56564	None
322	1uok	33	60	1.55	51012	None
323	1pfaA	33	60	1.55	53785	None
324	1fftA	33	60	1.55	81441	None
325	1mqsA	33	60	1.55	56816	complexed with an N-terminal peptide of sed5p, chain B
326	1qmeA	33	60	1.55	54185	None
327	1jfaA	33	60	1.55	69113	None
328	1kbeA	33	60	1.55	57890	complexed with zn
329	1kl7A	33	60	1.55	53687	None
330	1oxwA	33	60	1.55	89729	None
331	1de4C	33	60	1.55	47673	None
332	1m6sA	33	60	1.55	53384	None
333	1knzA	33	60	1.55	69904	None
334	1gvhA	33	60	1.55	46463	complexed with cl, fad, hem, na
335	1jj2K	33	60	1.55	52081	complexed with cd, cl, k, mg, na
336	1gph1	33	60	1.55	53272	None
337	1gph1	33	60	1.55	53272	None
338	1mi1A	33	60	1.55	81838	None
339	1efvB	33	60	1.55	52432	complexed with amp, fad
340	1efvB	33	60	1.55	52432	complexed with amp, fad
341	1e3mA	33	60	1.55	48335	None
342	2shpA	33	60	1.55	52805	None
343	1kbiA	33	60	1.55	51396	complexed with fmn, hem, mpd, po4, pyr
344	1ni4B	33	60	1.55	88741	None
345	1g9lA	33	60	1.55	63571	None
346	1h3iA	33	60	1.55	82186	None
347	1jndA	33	60	1.55	51534	complexed with man, nag
348	1kmmA	33	60	1.55	52955	None
349	1htyA	33	60	1.55	88693	complexed with mpd, nag, trs, zn
350	1j6uA	33	60	1.55	51985	structural genomics
351	1gvoA	33	60	1.55	51396	complexed with dnf, fmn
352	1fwxA	33	60	1.55	63392	None
353	1ld8B	33	60	1.55	48246	complexed with acy, fpp, suc, u49, zn
354	1klfA	33	60	1.55	49355	None
355	1he7A	33	60	1.55	49159	swapped N-terminal strand dimer; only one subunit is in the PDB entry
356	1othA	33	60	1.55	53672	None
357	1rhs	33	60	1.55	52827	None



358	2ak3A	32	57	1.58	52541	None
359	1df0A	32	57	1.58	63550	mutant
360	1m4iA	32	57	1.58	55730	None
361	1ga8A	32	57	1.58	53458	complexed with del, mn, upf; mutant
362	1ga8A	32	57	1.58	53458	complexed with del, mn, upf; mutant
363	1m6nA	32	57	1.58	81768	complexed with so4
364	1o2dA	32	57	1.58	69892	None
365	1ocrF	32	57	1.58	57818	None
366	1iegA	32	57	1.58	50790	None
367	2mysA	32	57	1.58	50085	complexed with mg, mly, so4
368	1noa	32	57	1.58	49320	None
369	1gw5M	32	57	1.58	49448	complexed with ihp
370	1kv8A	32	57	1.58	51375	None
371	1li4A	32	57	1.58	51830	complexed with ipa, nah, noc
372	1kepA	32	57	1.58	51751	None
373	1d5yA	32	57	1.58	46759	None
374	1f3lA	32	57	1.58	53351	complexed with sah
375	1aa6	32	57	1.58	50696	complexed with 4mo, cse, fs4, mgd
376	1i5zA	32	57	1.58	46796	None
377	1ca1	32	57	1.58	48538	complexed with cd, zn
378	1tubA	32	57	1.58	52491	complexed with gdp, gtp, txl
379	1m7sA	32	57	1.58	56635	None
380	1gz5A	32	57	1.58	82540	None
381	1ky9B	32	57	1.58	74933	None
382	1az9	32	57	1.58	53093	complexed with mn
383	1io7A	32	57	1.58	48265	None
384	1njka	32	57	1.58	54638	None
385	1ej5A	32	57	1.58	47913	the polyproline region in this domain has been replaced by a short flexible linker
386	1h2kA	32	57	1.58	82194	complex with HIF-1 alpha fragment peptide
387	1nhp	32	57	1.58	51943	None
388	1j0hA	32	57	1.58	81282	None
389	1j9lA	32	57	1.58	64168	None
390	1i1jA	32	57	1.58	50045	None
391	1h32A	32	57	1.58	81677	None
392	1jbwA	32	57	1.58	53250	complexed with acq, mg, tmf
393	1gwiA	32	57	1.58	48265	None
394	1o1yA	32	57	1.58	52318	structural genomics
395	1kb4B	32	57	1.58	57721	complexed with zn
396	1qlaA	32	57	1.58	46978	None
397	1ecrA	32	57	1.58	56597	protein/DNA complex
398	1jmmA	32	57	1.58	74915	complexed with mse, na; mutant
399	1ebdA	32	57	1.58	51943	None
400	1jkvA	32	57	1.58	47253	None