

## Recognition of adenine binding sites by searching the ASTRAL dataset.

The Table presents a list of proteins (top 400) whose binding sites were recognized to be similar to the adenine binding site of the c-AMP-dependent protein kinase (1atp). 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	1atpE	100	203	0.02	88854	complexed with atp, mn, pho
2	1o6lA	77	147	0.55	88854	complexed with anp, mn, tpo; mutant
3	1apmE	75	143	0.59	88854	complexed with oct, pho; mutant
4	1csn	68	126	0.75	88854	complexed with atp, mg, so4
5	1o6yA	66	121	0.80	88854	complexed with acp, mg
6	1jksA	63	114	0.87	88854	None
7	1phk	57	99	1.01	88854	complexed with atp, mn
8	1h1wA	57	99	1.01	88854	complexed with atp, gol, sep, so4
9	1nvrA	56	97	1.03	88854	complex with peptide, chain B
10	1fmk	56	97	1.03	50045	None
11	1m2rA	55	94	1.05	88854	complexed with mny
12	1b6cB	54	92	1.07	88854	None
13	1omwA	52	87	1.12	48098	complexed with cmt; mutant
14	1dxcC	52	87	1.12	48707	complexed with bcb, bpb, fe2, hec, lda, mq9, mst, ns5, so4; mutant
15	1kblA	51	85	1.14	51629	complexed with nh4, so4
16	1j7lA	50	82	1.17	64411	None
17	1cjaA	50	82	1.17	56168	None
18	1jr3A	50	82	1.17	48020	None
19	1iqpA	50	82	1.17	48020	None
20	1sur	48	78	1.21	52410	None
21	1fgkA	47	75	1.23	88854	None
22	1d0cA	47	75	1.23	56513	None
23	1kwpA	47	75	1.23	88854	None
24	1gz8A	46	73	1.26	88854	complexed with csw, mbp
25	1n7dA	46	73	1.26	63826	complexed with ca, keg, man, nag; mutant
26	3pmgA	46	73	1.26	53739	None
27	1n91A	46	73	1.26	69787	structural genomics
28	1h29A	46	73	1.26	48696	None
29	1a8i	46	73	1.26	53766	complexed with gls
30	1dn0B	46	73	1.26	48727	None
31	1iow	46	73	1.26	52452	complexed with adp, mg, phy; mutant
32	1fioA	45	70	1.28	47662	complexed with zn
33	1ep3A	45	70	1.28	51396	complexed with fad, fes, fmn
34	1f8rA	45	70	1.28	51913	None
35	1ni4B	45	70	1.28	88741	None
36	1ihuA	45	70	1.28	52652	None
37	1ewfA	45	70	1.28	55395	None
38	1mxiA	45	70	1.28	75218	complexed with iod, sah

39	1dgtB	45	70	1.28	47786	complexed with amp, zn
40	1lla	45	70	1.28	48051	complexed with cl, cu, na
41	1b16A	45	70	1.28	51751	None
42	1iw7D	45	70	1.28	64490	None
43	1gkuB	45	70	1.28	69496	None
44	1fm4A	45	70	1.28	55962	complexed with dho
45	1lfpA	45	70	1.28	75626	structural genomics
46	1mt5A	45	70	1.28	75305	None
47	1cpq	45	70	1.28	47179	complexed with hem
48	1eulA	45	70	1.28	81652	complexed with ca
49	1fftA	45	70	1.28	81441	None
50	2tpsA	45	70	1.28	51392	None
51	1n9lA	45	70	1.28	88853	complexed with fmm, sul
52	1qkmA	44	68	1.30	48509	complex with partial agonist genistein
53	1c52	44	68	1.30	46627	complexed with hem
54	2hgsA	44	68	1.30	52460	complexed with adp, gsh, mg, sul
55	1oedC	44	68	1.30	90113	None
56	1ju2A	44	68	1.30	51913	None
57	1o2dA	44	68	1.30	69892	None
58	1ezvC	44	68	1.30	81647	complexed with fes, hem, sma, uq6
59	1lrhA	44	68	1.30	51187	None
60	1c75A	44	68	1.30	46627	complexed with hem
61	1fo4A	44	68	1.30	47742	None
62	1qb7A	44	68	1.30	53272	complexed with ade, cit, mg
63	1hrkA	44	68	1.30	53801	None
64	1plzA	44	68	1.30	89403	complexed with mse; mutant
65	1lldA	44	68	1.30	51848	None
66	1qs0A	44	68	1.30	88766	complexed with hri, mg, tdp
67	1jy5A	44	68	1.30	55896	None
68	1okeA	44	68	1.30	81284	None
69	1og6A	44	68	1.30	51431	None
70	1n5uA	44	68	1.30	48553	None
71	1iknD	44	68	1.30	48404	None
72	1qh4A	44	68	1.30	48035	None
73	1jboB	44	68	1.30	46532	complexed with cyc, men
74	1c8dA	44	68	1.30	88646	complexed with ca
75	1byb	44	68	1.30	51446	complexed with glc, so4
76	1qkrA	44	68	1.30	47221	None
77	1f3lA	44	68	1.30	53351	complexed with sah
78	1n7hA	44	68	1.30	51751	None
79	1d7yA	44	68	1.30	51943	None
80	1cliA	44	68	1.30	55327	None
81	1ja9A	44	68	1.30	51751	complexed with ndp, pyq
82	1gyoA	44	68	1.30	48696	None
83	1kekA	44	68	1.30	88746	None
84	1aco	44	68	1.30	52017	complexed with fs4, tra
85	1hmnA	44	68	1.30	69547	None
86	2rspA	44	68	1.30	50631	None

87	1jalA	44	68	1.30	52592	None
88	1eno	44	68	1.30	51751	complexed with nad; mutant
89	1mkiA	44	68	1.30	90084	None
90	1hh5A	44	68	1.30	48696	complexed with hec
91	19hcA	44	68	1.30	48696	None
92	1m1xB	44	68	1.30	69180	complexed with mn, nag
93	1gw0A	44	68	1.30	49550	None
94	1jyeA	44	68	1.30	53823	complexed with gol; mutant
95	1nrwA	43	66	1.33	82388	structural genomics
96	1od2A	43	66	1.33	89572	None
97	1n97A	43	66	1.33	48265	None
98	1tgoA	43	66	1.33	53118	None
99	1m98A	43	66	1.33	81931	None
100	1ew0A	43	66	1.33	55789	complexed with hem
101	1oahA	43	66	1.33	48711	None
102	1d8cA	43	66	1.33	51646	None
103	1l5aA	43	66	1.33	75229	None
104	1qbkB	43	66	1.33	48372	complexed with gnp, mg
105	1n62C	43	66	1.33	55448	None
106	1jqnA	43	66	1.33	51632	complexed with asp, dco, mn
107	1gz5A	43	66	1.33	82540	None
108	1bvsA	43	66	1.33	46930	None
109	1f44A	43	66	1.33	47824	mutant
110	1mdaH	43	66	1.33	50970	None
111	1lp3A	43	66	1.33	88646	None
112	1d2nA	43	66	1.33	81269	complexed with anp, gol, mg
113	1thfD	43	66	1.33	51367	complexed with po4
114	1e3hA	43	66	1.33	46916	complexed with so4
115	3btaA	43	66	1.33	49956	complexed with zn
116	1kgyA	43	66	1.33	49800	None
117	1o7nA	43	66	1.33	50033	complexed with edo, fe, fes, ind, oxy, so4
118	1cydA	43	66	1.33	51751	None
119	1aye	43	66	1.33	53188	procarboxypeptidase A2
120	1an9A	43	66	1.33	51979	None
121	1nw3A	43	66	1.33	89746	complexed with act, sam, so4
122	1l3lA	43	66	1.33	46900	None
123	1it2A	43	66	1.33	46463	None
124	3cyr	43	66	1.33	48696	complexed with hem
125	2shpA	43	66	1.33	52805	None
126	1gg3A	43	66	1.33	47032	None
127	1muoA	43	66	1.33	88854	complexed with adn
128	1ng4A	43	66	1.33	51913	None
129	1azsC	43	66	1.33	47896	complexed with fkp, gsp, mg; mutant
130	1qs1A	43	66	1.33	56400	None
131	1dl6A	43	66	1.33	57784	complexed with zn
132	1h0hA	43	66	1.33	50696	None
133	1ezvB	43	66	1.33	63412	None

134	1lfo	43	66	1.33	50847	complexed with ace, beo, ola, unx
135	1bgxT	43	66	1.33	47808	None
136	1kzkA	43	66	1.33	50631	None
137	1mkyA	43	66	1.33	52592	None
138	1e8gA	43	66	1.33	55104	None
139	1pswA	43	66	1.33	89784	structural genomics
140	1h32A	43	66	1.33	81677	None
141	1mnaA	43	66	1.33	69584	None
142	1kssA	43	66	1.33	48711	complexed with fad, fum, hem, na; mutant
143	1mx1A	43	66	1.33	53475	None
144	1lv2A	43	66	1.33	48509	complexed with plm
145	1l4sA	43	66	1.33	69755	None
146	1bx4A	43	66	1.33	53614	complexed with adn, cl, mo4, mo6
147	1qaxA	43	66	1.33	55036	None
148	1jroB	43	66	1.33	54666	None
149	1m1qA	43	66	1.33	48711	complexed with hem, sul
150	1cid	43	66	1.33	48727	complexed with so4
151	1kk8A	43	66	1.33	50085	complexed with adp, bef, ca, gol, mg; mutant
152	1mj3A	43	66	1.33	52103	None
153	1g291	43	66	1.33	50338	None
154	1oacA	43	66	1.33	49999	None
155	1ea9C	43	66	1.33	81282	None
156	1m0wA	42	63	1.35	52460	None
157	1i5zA	42	63	1.35	46796	None
158	1bjbA	42	63	1.35	49159	a single-chain construct with epsilon chain domain, includes part of the linker
159	1kv3A	42	63	1.35	81289	None
160	1g5gA	42	63	1.35	69923	None
161	1dgsA	42	63	1.35	47786	None
162	1mdbA	42	63	1.35	56802	complexed with amp, dbh, so4
163	1eqgA	42	63	1.35	48132	None
164	1efvB	42	63	1.35	52432	complexed with amp, fad
165	2prgA	42	63	1.35	48509	None
166	1ns5A	42	63	1.35	82371	None
167	1acc	42	63	1.35	56989	complexed with ca
168	1ft5A	42	63	1.35	48711	complexed with hem, ips
169	1ofdA	42	63	1.35	69337	None
170	1j3bA	42	63	1.35	53796	None
171	1rgs	42	63	1.35	51210	None
172	1k24A	42	63	1.35	75651	complexed with 1pe, zn
173	1ocrB	42	63	1.35	49541	None
174	1nni1	42	63	1.35	89590	structural genomics
175	1eg3A	42	63	1.35	47547	None
176	1fgjA	42	63	1.35	48711	None
177	1jymA	42	63	1.35	56421	None

178	1jjuA	42	63	1.35	68956	None
179	1ihkA	42	63	1.35	50354	complexed with po4
180	1cxA	42	63	1.35	54602	None
181	1g8pA	42	63	1.35	81269	CASP4
182	1efuB	42	63	1.35	63423	None
183	2pia	42	63	1.35	63381	complexed with fes, fmn
184	1pvdA	42	63	1.35	52475	None
185	1kbiA	42	63	1.35	51396	complexed with fmn, hem, mpd, po4, pyr
186	1cx4A	42	63	1.35	51210	None
187	1mumA	42	63	1.35	88704	None
188	1d3gA	42	63	1.35	51396	complexed with act, bre, ddq, fmn, oro, so4
189	1fk5A	42	63	1.35	47700	complexed with fmt, ola
190	1qm9A	42	63	1.35	54929	None
191	1onfA	42	63	1.35	51943	None
192	2btvA	42	63	1.35	56832	None
193	1ky9A	42	63	1.35	74933	None
194	1p4oA	42	63	1.35	88854	None
195	1inp	42	63	1.35	56656	complexed with mg
196	1hr6B	42	63	1.35	63412	None
197	1e0tA	42	63	1.35	50801	None
198	1l7vA	42	63	1.35	75648	None
199	1ei1A	42	63	1.35	54224	None
200	1pme	42	63	1.35	88854	complexed with 577, so4; mutant
201	1fepA	42	63	1.35	56948	None
202	1d0nA	42	63	1.35	55754	None
203	1ldjA	42	63	1.35	74679	complexed with zn
204	1h2kA	42	63	1.35	82194	complex with HIF-1 alpha fragment peptide
205	1jr7A	42	63	1.35	63855	complexed with fe2
206	1f4lA	42	63	1.35	47324	complexed with met, zn
207	1nar	42	63	1.35	51534	X-ray sequence
208	1f1eA	42	63	1.35	47129	complexed with cl
209	1a0p	42	63	1.35	47824	None
210	1h1oA	42	63	1.35	46680	None
211	1opoA	42	63	1.35	88643	None
212	7reqA	42	63	1.35	51704	None
213	1g8mA	42	63	1.35	63971	None
214	1fbvA	42	63	1.35	47547	complexed with so4, zn
215	1qpcA	42	63	1.35	88854	complexed with anp, edo, so4
216	1tubB	42	63	1.35	52491	complexed with gdp, gtp, txl
217	1gw5B	42	63	1.35	74771	complexed with ihp
218	1i8oA	42	63	1.35	46627	complexed with hec, nh3, sul
219	1b5tA	42	63	1.35	51731	None
220	1eur	42	63	1.35	50940	None
221	1a9xA	42	63	1.35	48109	None
222	1edoA	42	63	1.35	51751	complexed with nap

223	1gcvA	42	63	1.35	46463	None
224	1e8cA	42	63	1.35	63419	None
225	1ejdA	42	63	1.35	55209	None
226	1vns	42	63	1.35	48325	complexed with so4
227	1eg7A	42	63	1.35	52652	None
228	1jjiA	42	63	1.35	53487	None
229	1gm5A	42	63	1.35	69009	complexed with adp, mg
230	1e5qA	42	63	1.35	51800	None
231	1a06	42	63	1.35	88854	None
232	1dmhA	42	63	1.35	49483	None
233	1aozA	42	63	1.35	49550	None
234	1o97C	42	63	1.35	52432	complexed with amp, fad
235	1et9A	42	63	1.35	50219	None
236	1o8bA	42	63	1.35	75176	None
237	1qdmA	42	63	1.35	47866	None
238	1jeyA	42	63	1.35	64502	None
239	1zakA	42	63	1.35	52541	None
240	1o8aA	42	63	1.35	55505	complexed with act, cl, nag, ndg, nxa, zn
241	1a6dA	42	63	1.35	48596	None
242	1n9pA	42	63	1.35	81966	complexed with mse
243	1qlaA	42	63	1.35	46978	None
244	1lqvA	42	63	1.35	54453	None
245	1gg4A	42	63	1.35	63419	None
246	1n8vA	42	63	1.35	81898	None
247	1jgtA	42	63	1.35	52403	None
248	1f2A	42	63	1.35	51943	None
249	1h5qA	42	63	1.35	51751	None
250	1gz6A	42	63	1.35	51751	None
251	1o22A	42	63	1.35	90065	structural genomics
252	1ig0A	42	63	1.35	63863	None
253	1dwnA	42	63	1.35	55406	None
254	1n3lA	42	63	1.35	52375	mini-TyrRS; anticodon recognition part is more divergent; secreted cytokine with IL-8-like activity
255	1lkxA	41	61	1.37	52641	None
256	1f5nA	41	61	1.37	48341	complexed with gnp, mg; mutant
257	1k3kA	41	61	1.37	56855	mutant
258	1f6dA	41	61	1.37	53763	None
259	1dnpA	41	61	1.37	48174	None
260	1nubA	41	61	1.37	47489	None
261	1iw7C	41	61	1.37	64485	None
262	1hrnA	41	61	1.37	50646	None
263	1mjhA	41	61	1.37	52436	None
264	1jpzA	41	61	1.37	48265	None
265	1ngvB	41	61	1.37	89763	None
266	1k0rA	41	61	1.37	50282	None
267	1ctj	41	61	1.37	46627	complexed with hem

268	1fjgB	41	61	1.37	52314	complexed with mg, par, scm, sry, zn
269	1j79A	41	61	1.37	63917	None
270	1bif	41	61	1.37	52589	complexed with atg, gol, mg, po4; mutant
271	1n7vA	41	61	1.37	89429	complexed with act, ca
272	1lw7A	41	61	1.37	52397	complexed with mse, nad, so4
273	1i50A	41	61	1.37	64485	complexed with mn, zn
274	2gdm	41	61	1.37	46463	complexed with hem, oxy
275	1e29A	41	61	1.37	46627	complexed with ca, hec
276	1bu6O	41	61	1.37	53089	None
277	1m4vA	41	61	1.37	50219	None
278	1n5dA	41	61	1.37	51751	complexed with ndp, so4
279	1mwvA	41	61	1.37	74753	None
280	1puiA	41	61	1.37	52592	None
281	1ckmA	41	61	1.37	50307	None
282	1hhsA	41	61	1.37	64480	None
283	1d4bA	41	61	1.37	54278	None
284	1fnmA	41	61	1.37	50448	complexed with gdp, mg; mutant
285	8abp	41	61	1.37	53823	complexed with gla, glb; mutant
286	1fcdC	41	61	1.37	46680	None
287	1dciA	41	61	1.37	52103	None
288	1ky9B	41	61	1.37	74933	None
289	1o4sA	41	61	1.37	53384	None
290	1io7A	41	61	1.37	48265	None
291	1iqcA	41	61	1.37	46685	None
292	1jyA	41	61	1.37	64514	complexed with nfs, sf4
293	1allB	41	61	1.37	46532	complexed with ch3, cyc
294	1f60A	41	61	1.37	50448	None
295	1ksiA	41	61	1.37	49999	None
296	1kit	41	61	1.37	49965	None
297	1p0yA	41	61	1.37	81823	None
298	1tubA	41	61	1.37	52491	complexed with gdp, gtp, txl
299	1aquA	41	61	1.37	52575	None
300	1cvuA	41	61	1.37	48132	None
301	1jsxA	41	61	1.37	75264	structural genomics
302	1mzgA	41	61	1.37	82650	None
303	1bf6A	41	61	1.37	51564	None
304	1fmcA	41	61	1.37	51751	None
305	1nytA	41	61	1.37	51883	None
306	1m6nA	41	61	1.37	81768	complexed with so4
307	1nktA	41	61	1.37	81768	None
308	1pda	41	61	1.37	53851	complexed with acy, dpm
309	1kb0A	41	61	1.37	68952	complexed with ca, gol, hec, pqq, tfb
310	1d2sA	41	61	1.37	49944	complexed with ca, dht
311	1kcmA	41	61	1.37	64388	None
312	1i50B	41	61	1.37	64490	complexed with mn, zn
313	1m6iA	41	61	1.37	51943	None
314	1fs7A	41	61	1.37	48711	complexed with act, ca, hem, y1

315	lnsj	41	61	1.37	51381	complexed with po4
316	lcpo	41	61	1.37	47572	None
317	lohtA	41	61	1.37	55847	complexed with egl, mse, tla, zn
318	laop	41	61	1.37	55125	None
319	lntyD	41	61	1.37	47253	None
320	lii5A	41	61	1.37	53851	complexed with glu
321	lfx8A	41	61	1.37	56895	complexed with bog, cry
322	lallA	41	61	1.37	46532	complexed with ch3, cyc
323	256bA	41	61	1.37	47176	None
324	liy8A	41	61	1.37	51751	None
325	ljp3A	41	61	1.37	64006	None
326	lp3dA	41	61	1.37	51985	None
327	lni9A	41	61	1.37	90087	structural genomics
328	ljvaA	41	61	1.37	51298	None
329	lqtrA	41	61	1.37	53509	None
330	lny72	41	61	1.37	88636	None
331	lgkrA	41	61	1.37	75044	None
332	lj6zA	41	61	1.37	53068	None
333	ll7dA	41	61	1.37	51830	None
334	lgnGA	41	61	1.37	88854	None
335	ln1cA	41	61	1.37	89156	None
336	ladn	41	61	1.37	57885	complexed with zn
337	lcipA	41	61	1.37	47896	complexed with gnp, mg
338	lfuiA	41	61	1.37	50444	None
339	9wgaA	41	61	1.37	57017	None
340	llshA	41	61	1.37	48432	complexed with pca, pld, upl
341	ll5jA	41	61	1.37	74779	None
342	liirA	41	61	1.37	64178	complexed with mg, so4
343	lmg7A	41	61	1.37	89824	None
344	lgpeA	41	61	1.37	51913	None
345	lubkL	41	61	1.37	56763	complexed with cmo, fine, fs3, fs4, mg, mpd
346	ll8wA	41	61	1.37	74749	None
347	lm13A	41	61	1.37	48509	complexed with hyf
348	lm5yA	41	61	1.37	81828	None
349	lkzqA	41	61	1.37	74878	None
350	2tbvA	41	61	1.37	88643	None
351	ldceA	41	61	1.37	48440	None
352	lkv9A	41	61	1.37	68952	complexed with acn, ca, epe, gol, hem, pqq
353	lmg2D	41	61	1.37	46627	None
354	lgegA	41	61	1.37	51751	None
355	lkk1A	41	61	1.37	50448	complexed with gnp, mg, zn; mutant
356	laua	41	61	1.37	46939	complexed with bog
357	lqorA	41	61	1.37	50136	None
358	lmukA	41	61	1.37	56694	None
359	ljnrB	41	61	1.37	54884	None
360	lhqz1	41	61	1.37	55762	None



361	1howA	41	61	1.37	88854	residues 305-538 were deleted and replaced with Val-Asp
362	1uxy	41	61	1.37	56184	complexed with epu, fad; mutant
363	1d09B	41	61	1.37	54894	None
364	1oqcA	41	61	1.37	69001	None
365	1kepA	41	61	1.37	51751	None
366	1fkmA	41	61	1.37	47924	None
367	4fiv	41	61	1.37	50631	complexed with 1ni
368	1in4A	41	61	1.37	46819	complexed with act, adp, co, hez
369	1ndbA	41	61	1.37	82424	None
370	1jfbA	41	61	1.37	48265	complexed with gol, hem
371	1l7vC	41	61	1.37	52686	None
372	1guzA	41	61	1.37	51848	None
373	1ky3A	41	61	1.37	52592	complexed with gdp, mg
374	1jw9B	41	61	1.37	69573	complexed with so4, zn
375	1hzdA	41	61	1.37	52103	None
376	1hzdA	41	61	1.37	52103	None
377	1hdmA	41	61	1.37	48942	None
378	1lki	41	61	1.37	47267	None
379	1miwA	41	61	1.37	81892	None
380	1f0yA	41	61	1.37	48187	None
381	1gy8A	41	61	1.37	51751	None
382	1or7A	41	61	1.37	88665	None
383	1iz5A	41	61	1.37	55983	None
384	1nsoA	41	61	1.37	50631	folded monomer
385	1cjcA	41	61	1.37	51906	complexed with fad
386	1ayx	41	61	1.37	48209	complexed with trs
387	1lqtA	41	61	1.37	51906	None
388	1gsa	41	61	1.37	52457	complexed with adp, gtt, mg, so4
389	1h6vA	41	61	1.37	51943	None
390	1qdlA	41	61	1.37	56323	None
391	1gteA	41	61	1.37	46553	None
392	1aa6	41	61	1.37	50696	complexed with 4mo, cse, fs4, mgd
393	1oaa	41	61	1.37	51751	complexed with nap, oaa, so4
394	1oaa	41	61	1.37	51751	complexed with nap, oaa, so4
395	1j9lA	41	61	1.37	64168	None
396	1fj2A	41	61	1.37	53547	None
397	1aoa	40	58	1.39	47577	None
398	2napA	40	58	1.39	50696	complexed with fs4, mes, mgd, mo
399	1k28A	40	58	1.39	69256	complexed with k, po4
400	1ja1A	40	58	1.39	50438	None