

SUPPLEMENTARY INFORMATION

Sequence Analysis of Hypothetical Proteins from *Helicobacter pylori* 26695 to Identify Potential Virulence Factors

Ahmad Abu Turab Naqvi^{1§}, Farah Anjum^{2§}, Faez Iqbal Khan³, Asimul Islam¹,
Faizan Ahmad¹, Md. Imtaiyaz Hassan^{1*}

¹Center for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, Jamia Nagar, New Delhi 110025, India, ²Female College of Applied Medical Science, Taif University, Al-Taif 21974, Kingdom of Saudi Arabia, ³School of Chemistry and Chemical Engineering, Henan University of Technology, Henan 450001, China

Supplementary Table 2. List of predicted sub-cellular localization of 340 HPs from *Helicobacter pylori*

No.	UniProt ID	Sub-cellular localization			Signal peptide	Secretory protein (SecretomeP)	Tranmembrane helices prediction	
		PSORTb	PSLpred	CELLO			HMMTOP	TMHMM
1	O24859	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	3 TM helices
2	O24860	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	3 TM helices	3 TM helices
3	O24861	Cytoplasmic membrane	Inner-membrane protein	Cytoplasmic	No	No	3 TM helices	2 TM helices
4	O24863	Unknown	Cytoplasmic protein	Outer membrane	No	No	3 TM helices	Not present
5	O24869	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
6	O24871	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	2 TM helices	2 TM helices
7	O24873	Cytoplasmic	Periplasmic protein	Cytoplasmic	No	No	Not present	Not present
8	P56066	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
9	O24894	Cytoplasmic	Inner-membrane protein	Cytoplasmic	No	No	Not present	Not present
10	O24898	Unknown	Periplasmic protein	Periplasmic	No	Yes	Not present	Not present
11	O24899	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
12	O24900	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
13	O24901	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
14	O24902	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
15	O24903	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
16	O24904	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
17	O24905	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
18	O24909	Extracellular	Periplasmic protein	Extracellular	Yes	Yes	Not present	1 TM helices
19	O24910	Unknown	Inner-membrane protein	Cytoplasmic	No	No	Not present	Not present
20	P64651	Cytoplasmic membrane	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
21	O24914	Cytoplasmic membrane	Periplasmic protein	Outer membrane	No	Yes	Not present	Not present
22	O24921	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present

23	O24923	Unknown	Inner-membrane protein	Periplasmic	Yes	No	Not present	1 TM helices
24	O24926	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
25	O24932	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
26	O24934	Unknown	Inner-membrane protein	Cytoplasmic	No	No	Not present	Not present
27	O24935	Unknown	Extracellular protein	Periplasmic	No	Yes	Not present	Not present
28	O24936	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	2 TM helices	Not present
29	P56080	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
30	O24937	Cytoplasmic	Extracellular protein	Periplasmic	No	Yes	Not present	Not present
31	O24938	Cytoplasmic	Extracellular protein	Periplasmic	No	Yes	Not present	Not present
32	O24939	Cytoplasmic	Extracellular protein	Periplasmic	No	Yes	Not present	Not present
33	P64653	Unknown	Cytoplasmic protein	Cytoplasmic	No	Yes	Not present	Not present
34	O24942	Unknown	Inner-membrane protein	Cytoplasmic	No	Yes	Not present	Not present
35	O24943	Cytoplasmic	Outer Membrane protein	Periplasmic	Yes	Yes	1 TM helices	Not present
36	O24944	Unknown	Periplasmic protein	Periplasmic	No	Yes	1 TM helices	Not present
37	O24945	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
38	P64655	Cytoplasmic membrane	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	Not present
39	O24949	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
40	O24951	Cytoplasmic membrane	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
41	O24959	Unknown	Inner-membrane protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
42	O24960	Unknown	Inner-membrane protein	Inner membrane	No	No	2 TM helices	1 TM helices
43	O24961	Unknown	Periplasmic protein	Inner membrane	No	No	1 TM helices	1 TM helices
44	O24963	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
45	O24964	Unknown	Inner-membrane protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
46	O24965	Unknown	Inner-membrane protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
47	O24974	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
48	O24975	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
49	O24976	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present

50	O24979	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	6 TM helices	6 TM helices
51	O24984	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
52	O24985	Cytoplasmic	Extracellular protein	Periplasmic	No	Yes	1 TM helices	1 TM helices
53	O24986	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
54	O24989	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	4 TM helices	4 TM helices
55	P56117	Cytoplasmic membrane	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	Not present
56	O24992	C ytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
57	O24996	C ytoplasmic	Cytoplasmic protein	Cytoplasmic	Yes	No	Not present	Not present
58	O25010	Unknown	Extracellular protein	Cytoplasmic	No	Yes	Not present	Not present
59	O25018	Unknown	Extracellular protein	Extracellular	No	Yes	1 TM helices	Not present
60	O25022	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
61	O25024	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	2 TM helices	Not present
62	O25025	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
63	P64657	Unknown	Periplasmic protein	Cytoplasmic	No	No	Not present	Not present
64	O25031	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	2 TM helices	2 TM helices
65	O25038	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	Not present
66	O25041	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
67	O25042	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
68	O25047	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
69	O25048	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
70	O25049	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
71	O25051	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
72	P56132	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
73	O25053	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
74	O25058	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
75	O25061	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
76	O25065	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present

77	O25075	Unknown	Extracellular protein	Periplasmic	Yes	Yes	Not present	Not present
78	O25076	Unknown	Cytoplasmic protein	Periplasmic	Yes	Yes	Not present	Not present
79	O25081	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
80	O25085	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
81	O25104	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
82	O25105	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	3 TM helices	2 TM helices
83	O25107	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
84	O25108	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
85	O25109	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	3 TM helices	4 TM helices
86	O25123	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
87	O25131	Cytoplasmic	Extracellular protein	Extracellular	No	Yes	Not present	Not present
88	O25145	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	3 TM helices	2 TM helices
89	O25146	Unknown	Periplasmic protein	Cytoplasmic	Yes	Yes	Not present	Not present
90	O25147	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
91	P64659	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
92	O25155	Unknown	Inner-membrane protein	Cytoplasmic	No	No	Not present	Not present
93	O25156	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
94	O25159	Unknown	Extracellular protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
95	O25162	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
96	O25164	Unknown	Cytoplasmic protein	Periplasmic	No	Yes	Not present	Not present
97	O25172	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
98	O25174	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	2 TM helices	Not present
99	O34995	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
100	O34461	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
101	O25177	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
102	O34810	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
103	O25178	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present

104	O25180	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
105	O25190	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	1 TM helices	2 TM helices
106	O25191	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	Yes	No	3 TM helices	3 TM helices
107	O25192	Cytoplasmic	Periplasmic protein	Cytoplasmic	No	Yes	Not present	Not present
108	O25194	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
109	O25195	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
110	O25196	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
111	O25197	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
112	O25198	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
113	Q9WXL5	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
114	O25200	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
115	O25201	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
116	O25203	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
117	O25204	Cytoplasmic membrane	Inner-membrane protein	Cytoplasmic	No	No	2 TM helices	1 TM helices
118	O25205	Unknown	Cytoplasmic protein	Cytoplasmic	No	Yes	Not present	Not present
119	O25212	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
120	O25213	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
121	O25214	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
122	O25215	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	1 TM helices
123	O25228	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
124	O34410	Unknown	Extracellular protein	Extracellular	No	Yes	Not present	Not present
125	O25232	Cytoplasmic	Extracellular protein	Extracellular	No	Yes	Not present	1 TM helices
126	O25237	Unknown	Periplasmic protein	Periplasmic	No	Yes	Not present	Not present
127	O25251	Unknown	Inner-membrane protein	Cytoplasmic	No	No	Not present	Not present
128	O25252	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
129	O25255	Unknown	Cytoplasmic protein	Outer membrane	No	Yes	Not present	Not present
130	O25280	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	1 TM helices	1 TM helices

131	O25282	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	4 TM helices	5 TM helices
132	O25287	Unknown	OuterMembrane protein	Extracellular	No	Yes	Not present	Not present
133	O25288	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
134	O25292	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
135	O25301	CytoplasmicMembrane	Inner-membrane protein	Outer membrane	No	No	5 TM helices	5 TM helices
136	O25305	Unknown	Periplasmic protein	Periplasmic	Yes	Yes	1 TM helices	1 TM helices
137	K4NB13	Cytoplasmic membrane	Extracellular protein	Inner membrane	No	No	2 TM helices	2 TM helices
138	O25308	Outer membrane	Cytoplasmic protein	Outer membrane	No	No	1 TM helices	1 TM helices
139	O25309	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	2 TM helices	1 TM helices
140	O25316	Cytoplasmic membrane	Inner-membrane protein	Cytoplasmic	No	No	1 TM helices	2 TM helices
141	O25317	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	5 TM helices	4 TM helices
142	O25324	Unknown	OuterMembrane protein	Cytoplasmic	No	Yes	Not present	3 TM helices
143	O25333	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	2 TM helices	3 TM helices
144	O25346	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
145	O25354	Unknown	Extracellular protein	Extracellular	No	Yes	2 TM helices	3 TM helices
146	O25358	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
147	O25364	Cytoplasmic membrane	Cytoplasmic protein	Periplasmic	No	No	2 TM helices	2 TM helices
148	O25373	Cytoplasmic	Outer membrane protein	Cytoplasmic	yes	Yes	Not present	1 TM helices
149	O25374	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	2 TM helices
150	P64663	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
151	O25381	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	2 TM helices
152	O25392	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	2 TM helices
153	O25406	Cytoplasmic membrane	Periplasmic protein	Outer membrane	No	No	2 TM helices	1 TM helices
154	O25407	Unknown	Inner-membrane protein	Cytoplasmic	No	No	Not present	1 TM helices
155	O25408	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
156	O25412	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
157	O25423	Unknown	Outer membrane	Periplasmic	Yes	Yes	Not present	1 TM helices

			protein						
158	O25429	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present	
159	O25430	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present	
160	O25431	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present	
161	O25442	Outer Membrane	Periplasmic protein	Outer membrane	Yes	Yes	Not present	Not present	
162	O25450	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	1 TM helices	
163	O25451	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present	
164	O25456	Unknown	Inner-membrane protein	Cytoplasmic	No	No	Not present	Not present	
165	O25457	Unknown	Periplasmic protein	Cytoplasmic	No	Yes	1 TM helices	Not present	
166	O25459	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	2 TM helices	
167	O25460	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present	
168	O25461	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present	
169	O25468	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present	
170	O25469	Unknown	Cytoplasmic protein	Cytoplasmic	Yes	No	Not present	Not present	
171	O25470	Unknown	Inner-membrane protein	Outer membrane	Yes	No	Not present	Not present	
172	O25472	Cytoplasmic	Cytoplasmic protein	Periplasmic	No	No	Not present	1 TM helices	
173	O25478	Unknown	Outer membrane	Cytoplasmic	No	No	Not present	Not present	
			protein						
174	O25483	Cytoplasmic membrane	Inner-membrane protein	Inner membrane	No	No	5 TM helices	4 TM helices	
175	O25491	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present	
176	O25495	Unknown	Extracellular protein	Outer membrane	Yes	No	Not present	Not present	
177	O25498	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present	
178	O25499	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present	
179	O25504	Unknown	Extracellular protein	Outer membrane	No	Yes	Not present	Not present	
180	O25509	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	Yes	No	Not present	2 TM helices	
181	O25510	Unknown	Periplasmic protein	Outer membrane	No	Yes	Not present	Not present	
182	O25513	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	Not present	Not present	

183	O25520	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
184	O25523	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
185	O25527	Unknown	Extracellular protein	Cytoplasmic	No	No	2 TM helices	4 TM helices
186	O25535	Unknown	Extracellular protein	Outer membrane	No	No	1 TM helices	2 TM helices
187	O25538	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
188	O25542	Unknown	Extracellular protein	Periplasmic	No	Yes	Not present	Not present
189	O25545	Unknown	Extracellular protein	Cytoplasmic	No	No	1 TM helices	Not present
190	O25546	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
191	O25547	Unknown	Extracellular protein	Cytoplasmic	No	No	1 TM helices	Not present
192	O25548	Unknown	Extracellular protein	Cytoplasmic	No	No	Not present	1 TM helices
193	O25550	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
194	O25553	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
195	O25555	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
196	O25557	Cytoplasmic	Cytoplasmic protein	Outer membrane	No	Yes	Not present	Not present
197	O25562	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
198	O25564	Extracellular	Cytoplasmic protein	Extracellular	No	Yes	Not present	Not present
199	O25567	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
200	O25576	Unknown	Cytoplasmic protein	Outer membrane	No	Yes	Not present	Not present
201	O25579	OuterMembrane	Extracellular protein	Extracellular	No	Yes	Not present	Not present
202	O25589	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
203	O25592	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
204	O25601	Unknown	Cytoplasmic protein	Periplasmic	No	Yes	Not present	Not present
205	O25602	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	2 TM helices	2 TM helices
206	O25607	Unknown	Cytoplasmic protein	Cytoplasmic	Yes	No	Not present	Not present
207	O25616	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
208	O25617	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
209	O25618	Cytoplasmic	Cytoplasmic protein	Outer membrane	No	Yes	Not present	Not present

210	O25619	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
211	O25624	Cytoplasmic	Cytoplasmic protein	Outer membrane	No	No	Not present	Not present
212	O25625	Cytoplasmic	Cytoplasmic protein	Periplasmic	yes	Yes	Not present	Not present
213	O25630	Cytoplasmic membrane	Cytoplasmic protein	Periplasmic	No	No	Not present	2 TM helices
214	O25632	Cytoplasmic membrane	Cytoplasmic protein	Inner membrane	No	No	4 TM helices	6 TM helices
215	O25635	Cytoplasmic membrane	Cytoplasmic protein	Cytoplasmic	No	No	2 TM helices	1 TM helices
216	O25636	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
217	O25637	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
218	O25641	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
219	O25642	Unknown	Cytoplasmic protein	Outer membrane	No	No	Not present	Not present
220	O25644	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
221	O25647	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
222	O25648	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	Yes	No	Not present	Not present
223	O25651	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
224	K4ND94	Unknown	-	Cytoplasmic	No	No	1 TM helices	1 TM helices
225	O25667	Unknown	Cytoplasmic protein	Outer membrane	No	Yes	1 TM helices	Not present
226	O25672	Unknown	Cytoplasmic protein	Outer membrane	No	Yes	Not present	Not present
227	O25673	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
228	O25689	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
229	O25691	Unknown	Cytoplasmic protein	Cytoplasmic	No	Yes	Not present	Not present
230	O25694	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
231	O25704	Unknown	Cytoplasmic protein	Inner membrane	No	No	1 TM helices	1 TM helices
232	O25705	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
233	O07680	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
234	O25707	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
235	O25708	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
236	O25709	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present

237	O25710	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
238	O25713	Cytoplasmic membrane	Cytoplasmic protein	Periplasmic	No	No	Not present	Not present
239	O25717	Unknown	Cytoplasmic protein	Cytoplasmic	Yes	No	Not present	Not present
240	O25721	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
241	O25726	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
242	O25727	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
243	O25734	Unknown	Cytoplasmic protein	Outer membrane	No	Yes	1 TM helices	Not present
244	O25741	Unknown	Cytoplasmic protein	Extracellular	No	Yes	Not present	Not present
245	O34410	Unknown	Cytoplasmic protein	Extracellular	No	Yes	Not present	Not present
246	O25745	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
247	O25747	Unknown	Cytoplasmic protein	Cytoplasmic	No	Yes	Not present	Not present
248	K4NFN1	Unknown	Inner-membrane protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
249	O25749	Outer membrane	Cytoplasmic protein	Outer membrane	No	Yes	Not present	Not present
250	O25761	Cytoplasmic	Cytoplasmic protein	Extracellular	No	No	Not present	Not present
251	O25762	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
252	O25768	Unknown	Cytoplasmic protein	Periplasmic	No	Yes	Not present	Not present
253	O25787	Cytoplasmic	Cytoplasmic protein	Periplasmic	Yes	No	Not present	Not present
254	O25799	Unknown	Cytoplasmic protein	Periplasmic	No	Yes	Not present	Not present
255	O25803	Unknown	Periplasmic protein	Periplasmic	Yes	Yes	1 TM helices	1 TM helices
256	K4NT00	Unknown	Cytoplasmic protein	Cytoplasmic	No	Yes	Not present	Not present
257	O25808	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	Yes	Not present	Not present
258	O25816	Cytoplasmic membrane	Cytoplasmic protein	Inner membrane	No	No	3 TM helices	3 TM helices
259	O25818	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
260	O25831	Unknown	Cytoplasmic protein	Periplasmic	No	Yes	Not present	Not present
261	O25834	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
262	O25839	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
263	O25843	Unknown	Cytoplasmic protein	Periplasmic	No	Yes	1 TM helices	1 TM helices

264	O25848	Cytoplasmic membrane	Cytoplasmic protein	Inner membrane	No	No	3 TM helices	4 TM helices
265	O25854	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
266	O25855	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
267	O25864	Unknown	Cytoplasmic protein	Cytoplasmic	Yes	No	Not present	Not present
268	O25866	Unknown	Cytoplasmic protein	Cytoplasmic	No	Yes	Not present	Not present
269	O25870	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	2 TM helices
270	O25872	Outer Membrane	Cytoplasmic protein	Periplasmic	No	Yes	Not present	Not present
271	O25873	Unknown	Cytoplasmic protein	Periplasmic	No	No	Not present	Not present
272	O25875	Unknown	Cytoplasmic protein	Extracellular	Yes	No	2 TM helices	2 TM helices
273	O25881	Unknown	Cytoplasmic protein	Cytoplasmic	Yes	No	Not present	Not present
274	O25882	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
275	O25884	Unknown	Cytoplasmic protein	Periplasmic	Yes	Yes	Not present	1 TM helices
276	O25886	Unknown	Cytoplasmic protein	Outer membrane	Yes	No	Not present	Not present
277	O25888	Cytoplasmic membrane	Cytoplasmic protein	Inner membrane	No	No	3 TM helices	3 TM helices
278	O25891	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	Yes	No	Not present	Not present
279	O25892	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
280	O25894	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
281	O25904	Unknown	Cytoplasmic protein	Inner membrane	No	No	3 TM helices	4 TM helices
282	O25906	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
283	O25913	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	1 TM helices
284	O25930	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	2 TM helices	Not present
285	O25932	Unknown	Cytoplasmic protein	Inner membrane	No	No	1 TM helices	1 TM helices
286	O25933	Unknown	Cytoplasmic protein	Periplasmic	No	Yes	Not present	Not present
287	O25934	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
288	O25935	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
289	K4NTI9	Cytoplasmic membrane	Inner-membrane protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
290	O25938	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	Yes	Not present	Not present

291	O25939	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
292	O25940	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	1 TM helices
293	O25941	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
294	O25942	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
295	O34810	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
296	O34461	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
297	O34995	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
298	O25960	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
299	O25966	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
300	O25967	Unknown	Cytoplasmic protein	Periplasmic	No	Yes	Not present	Not present
301	O25974	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
302	O25977	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
303	O25978	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
304	O25979	Cytoplasmic	Extracellular protein	Cytoplasmic	No	No	Not present	Not present
305	O25981	Unknown	Cytoplasmic protein	Outer membrane	Yes	No	Not present	Not present
306	O25990	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	2 TM helices
307	O25993	Unknown	Cytoplasmic protein	Outer membrane	Yes	Yes	Not present	Not present
308	O25994	Unknown	Cytoplasmic protein	Periplasmic	No	No	1 TM helices	1 TM helices
309	P55998	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
310	O25999	Unknown	Cytoplasmic protein	Periplasmic	No	No	Not present	Not present
311	O26000	Unknown	Cytoplasmic protein	Outer membrane	No	No	1 TM helices	1 TM helices
312	O26006	Unknown	Cytoplasmic protein	Outer membrane	No	No	Not present	Not present
313	O26007	Unknown	Extracellular protein	Outer membrane	No	No	2 TM helices	Not present
314	O26014	Extracellular	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
315	O26015	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
316	O26019	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	1 TM helices
317	O26020	Cytoplasmic membrane	Cytoplasmic protein	Inner membrane	No	No	6 TM helices	7 TM helices

318	O26021	Cytoplasmic membrane	Cytoplasmic protein	Inner membrane	No	No	6 TM helices	7 TM helices
319	O26022	Unknown	Outer membrane protein	Outer membrane	Yes	Yes	2 TM helices	Not present
320	O26025	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
321	O26026	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
322	O26035	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
323	O26041	Unknown	Cytoplasmic protein	Periplasmic	No	No	Not present	1 TM helices
324	O26042	Outer membrane	Outer membrane protein	Extracellular	No	Yes	Not present	Not present
325	O26045	Unknown	Cytoplasmic protein	Inner membrane	No	No	2 TM helices	2 TM helices
326	O26046	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
327	O26047	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
328	O26055	Unknown	Cytoplasmic protein	Extracellular	Yes	Yes	Not present	Not present
329	O26058	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	No	No
330	P64665	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
331	O26063	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	Yes	Not present	2 TM helices
332	O26088	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
333	O26089	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	1 TM helices	1 TM helices
334	O26095	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
335	O26099	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present
336	O26100	Cytoplasmic membrane	Cytoplasmic protein	Inner membrane	No	No	1 TM helices	6 TM helices
337	O26107	Cytoplasmic	Cytoplasmic protein	Cytoplasmic	No	No	Not present	2 TM helices
338	K4NEW8	Unknown	Extracellular protein	Extracellular	No	Yes	Not present	2 TM helices
339	O26108	Unknown	Cytoplasmic protein	Cytoplasmic	No	No	Not present	Not present

HPs, hypothetical proteins; TM, transmembrane.