

Appendix 1. List of Proteins Identified on 2-DE gel

spot No	gi No	protein accession No	discription	theoret. pI	measured pI	theoret. Mr	measured Mr	coverage (%)	match peptides
1	178345	NP_000468	alloalbumin Venezia	6	6.1	69.21	145.1	33.4	21/25
2	34875362	XM_224406	similar to lymphocyte cytosolic protein 1	5.9	5.9	81	124.6	18	8/22
3	18490111	NP_001839	Putative uncharacterized protein	5.8	5.3	47.69	116.7	16.2	6/10
4, 121	38305352	NP_937983	telomerase reverse transcriptase	11.4	9.9	126.75	113.2	10	7/16
5	4507877	NP_003364	vinculin isoform VCL	5.8	6.4	116.7	110.3	16.3	17/20
6	32451969	NP_778172	amphiphysin	4.5	6.7	75.11	104.6	13	5/8
7, 123	577295	NP_938149	KIAA0088, similar to alpha glucosidase	5.7	6.0	106.75	101.6	17.9	16/23
8	15010550	NP_003290	Endoplasmin	4.7	4.7	90.35	100.5	13	10/23
9, 24	27370952	NP_003065	SWI/SNF complex subunit SMARCC1	5.4	6.9	92.19	96.7	8	4/9
10, 11	5304852	NP_001089	dJ347H13.1 (aconitase 2, mitochondrial (Citrate Hydrolyase))	7.2	7.7	84.78	92.8	10	6/13
12, 13, 128, 129	4557871	NP_001054	transferrin	6.9	6.8	77.03	87.3	37.5	23/29
14, 131	27436948	NM_170708	lamin A/C isoform 3	8.7	7.0	70.64	84.1	18.3	10/17
15	13879314	NP_001005608	Itgb4 protein	5.7	7.4	101.59	83.2	12	6/16
16	38013966	NP_001055	Transketolase	6.5	8.2	58.19	77.4	11.8	5/8
17, 136	55957503	NP_062263	lamin A/C	6.6	7.2	55.74	76.8	19.1	9/13
18, 19, 20, 22, 23, 51, 137	55669910	NP_000468	chain A, crystal structure of the Ga module complexed with serum albumin	5.6	5.2	65.2	76.4	32.3	21/30
21	20127454	NP_004035	5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase	6.3	7.0	65.11	74.0	19	9/22
25, 142	2245365	NP_005304	protein disulfide-isomerase, ER60 precursor	5.98	5.8	57.167	64.7	17	8/17
26	4757900	NP_004334	calreticulin precursor	4.3	3.6	48.12	63.6	15.1	5/9
27, 144	283971	NP_000682	aldehyde dehydrogenase [NAD(P)]3 - human	6	6.5	50.32	63.2	17.4	7/13
28	4507467	NM_000358	transforming growth factor, beta-induced, 68kDa;kerato-epithelin	7.8	5.8	75.29	63.0	13	7/14

29, 53	23506465	NP_001918	mutant desmin	5.2	5.3	53.55	62.9	44.7	18/28
30, 32, 69, 91, 146, 148	2996636	NP_000349	Beta IG-H3	7	6.1	56.96	62.5	15	8/23
31, 44, 45, 47, 49, 65, 67, 105, 158, 171, 165, 173, 176, 179, 184	4507895	NM_003380	vimentin	5.1	5.1	53.67	62.3	43.8	20/28
33, 150, 151, 152	16306550	NP_033176	selenium binding protein 1	5.9	6.2	52.37	61.2	21.2	8/9
34	30749718	NP_036216	chain F, the R463a mutant of human glutamate dehydrogenase	7.4	7.5	54.93	61.2	20.2	9/12
35	28207863	NP_000286	Alpha-1-antitrypsin	5.1	4.9	41.43	61.0	21.1	8/14
36	21361176	NP_000680	aldehyde dehydrogenase 1A1	6.3	7.0	54.84	60.4	27.1	13/46
37	229601	NP_666216	Ig G1 H Nie	9.2	9.5	49.82	59.4	20	6/17
38	20177899	NP_036317	forkhead box protein E2 (HFKL5) (HFKH4)	11	7.0	52.66	59.0	15	5/14
39	54792127	NP_001677	ATP synthase, H ⁺ transporting, mitochondrial F1 complex, B	5.2	5.0	56.34	58.1	45	18/43
40	4504169	NP_000169	glutathione synthetase	5.7	5.8	52.54	58.0	15	6/14
41	23956222	NP_076224	actin-related protein 3 homolog	5.6	5.9	47.34	57.8	33	13/26
42	4240263	NP_055428	FAS-associated factor 2	5.5	6.2	52.75	57.1	10	4/11
43	15530265	NP_001395	eukaryotic translation elongation factor 1 gamma	6.3	6.7	50.13	56.4	16.5	7/20
46	21757503	AK097661	unnamed protein product	7.7	6.1	60.41	54.6	9	4/9
48	1706611	NP_003312	elongation factor Tu, mitochondrial precursor (EF-Tu)	6.7	7.1	49.38	53.6	17.9	6/12
50	3641398	NP_005887	NADP-dependent isocitrate dehydrogenase	6.3	7.2	46.67	53.0	17.6	9/12
52, 103	459893	NP_035823	vascular cell adhesion molecule-1(M)	5.2	6.4	82.44	52.3	16	7/15
54	220390	NP_031836	aromatase P450	8.6	6.2	58.51	51.7	15	5/15
55	26337289	NP_766506	Zinc finger protein 75, isoform CRA_c	10.1	7.4	61.26	51.6	16	5/9
56	31077128	NP_852036	glutathione S-transferase, mitochondrial	9.3	8.3	25.59	51.2	33	6/16
57	54673534	NP_000282	Phosphoglycerate kinase 1	8.6	9.6	44.6	50.5	36	12/25
58	4758840	NP_004813	netrin 1	9.9	6.0	67.72	50.0	11.6	8/14

59, 66	4885049	NM_005159	actin proprotein, alpha ,cardiac muscle	5.2	5.8	41.77	49.8	24.5	7/16
60	38079554	NT_039299	similar to Pyruvate kinase 3	7.9	6.5	54.22	49.6	11	5/10
61	105387	NP_002070	aspartate transaminase	6.8	7.5	46.12	49.4	28.2	10/23
62	49868	NP_031419	put. beta-actin (aa 27-375)	5.8	5.8	39.45	49.1	14	5/12
63, 181, 182	37181722	NP_066969	Angiopoietin-related protein 7	8.3	7.7	40	48.2	27.7	10/18
64	17535945	NP_493792	cyclin-like F-box family member (2A979)	9.5	9.5	43.14	48.2	21	7/19
68	33517007	NP_746686	hypothetical UPF0271 protein PP4577	5.5	6.2	28.2	44.9	16	4/8
70	48257068	BC007276	HSPA8 protein	5.4	4.9	64.66	42.4	22.3	9/20
71	33341268	NP_612453	BTB/POZ domain-containing protein KCTD12	5.5	5.3	35.68	42.2	24	7/14
72	1633300	NP_067448	Aldehyde Reductase	6.3	7.0	36.42	41.7	35.2	11/19
73, 191	5031777	NM_005530	isocitrate dehydrogenase 3 (NAD+) alpha precursor	6.5	5.9	40.03	41.3	15	7/13
74	7441391	XP_001173575	tropomyosin	4.8	4.5	34.98	40.6	24	9/25
75	25453472	NP_001951	eukaryotic translation elongation factor 1 delta isoform 2	4.9	4.9	31.22	40.3	21	4/9
76	339956	NP_000357	skeletal muscle tropomyosin	4.6	4.3	30.42	39.6	19	6/10
77	4506005	NP_766295	protein phosphatase 1, catalytic subunit, beta isoform 1	6	6.2	37.43	38.0	22.7	7/11
78	2981776	NP_001619	citrate bound, C298aW219Y mutant human aldose reductase	6.6	7.3	35.65	37.9	23.5	7/10
79	4504447	NP_002128	hnRNP A2 protein	8.4	9.7	32	37.6	22	5/15
80	54696696	NP_034860	annexin A1	6.6	6.9	38.7	37.3	24	6/10
81, 92, 95, 196, 198, 205	31645	NP_002037	glyceraldehyde-3-phosphate dehydrogenase	8.4	5.3	36.21	37.2	23	6/14
82	4506521	NP_003826	regulator of G-protein signalling 9	9.8	5.6	50.19	35.7	12	5/10
83	5031857	NP_005557	lactate dehydrogenase A	8.7	9.7	36.54	35.4	25.1	9/13
85	39645467	NP_001144	ANXA4 protein	5.6	6.0	33.53	34.9	24.4	9/13
86	2497640	NP_055009	killer cell lectin-like receptor 7 (T-cell surface glycoprotein Ly-49G)	8.8	6.4	33.3	34.7	30	4/10
87	4507651	NP_003281	tropomyosin 4	4.7	4.3	28.62	34.4	23	6/10

88	1070613	NP_001604	actin alpha 2	5.2	5.4	42.19	33.7	21	5/14
89	4758484	NP_004823	glutathione-S-transferase omega 1	6.2	6.4	27.83	32.1	20	5/8
90	37359756	NP_835214	Condensin-2 complex subunit D3	6.7	5.1	171.17	31.8	9	6/13
93	7524354	NP_039268	dimethylarginine dimethylaminohydrolase 2	5.7	5.8	29.63	30.5	22.1	6/12
94	112695	NP_777239	14-3-3 protein zeta/delta	4.7	4.6	27.9	30.3	20	6/13
96, 97	38566176	NP_002620	Phosphoglycerate mutase 1 (brain) [Homo sapiens]	6.7	7.4	28.8	29.9	40.9	10/16
98, 212, 214	4507151	NP_003093	superoxide dismutase 3, extracellular	6.1	6.8	25.86	29.3	27.9	5/8
208, 216, 217, 218, 99	4502133	NP_001630	serum amyloid P component precursor	6.1	5.7	25.48	31.1	33	5/13
100, 215	337758	NP_079746	pre-serum amyloid P component	6.1	5.6	25.38	28.8	21.5	5/9
101	5453549	NM_006406	thioredoxin peroxidase (antioxidant enzyme)	5.9	5.9	30.75	28.6	20	5/10
102, 219	4758638	NM_004905	peroxiredoxin 6; antioxidant protein 2.	6	6.8	25.13	28.3	28	6/17
104, 221	40889561	XP_534904	crystal structure of rabbit muscle triosephosphate isomerase, B	7.1	7.4	26.61	27.8	54.8	13/18
106	54696638	NP_001531	heat shock 27kDa protein 1	6	6.3	22.76	26.3	36.1	7/11
107	38083758	NT_039340	similar to zinc finger gonad protein 1 (M)	8.9	5.5	26.24	26.0	22	4/12
108	15012036	NP_000843	glutathione transferase	5.4	5.8	23.2	25.0	41.9	8/25
109	7023918	NP_037386	Serine/threonine-protein kinase TBK1	6.4	6.0	37.06	24.8	22	5/14
110	20346654	XP_110690	RIKEN cDNA 1810033B17	9.3	6.3	20.69	23.5	43	5/9
111	38503337	AB087276	superoxide dismutase [Mn], mitochondrial	6.9	7.7	22.33	23.1	23	4/12
112, 227, 228	299263	NP_000487	beta B2-crystallin [human, lens, Peptide, 204 aa]	6.5	7.2	23.23	23.1	60.3	15/28
113	31543380	NP_065594	DJ-1 protein	6.3	6.5	19.87	21.1	37	6/11
114, 231	47678379	NP_001877	CRYBA4	5.7	6.0	23.44	20.8	30	5/9
115, 117, 234	8922120	NP_060011	crystallin, gamma S	6.4	6.6	20.99	20.6	35.4	5/9
116, 195	4757756	NP_004030	annexin A2 isoform 2	7.7	5.0	38.59	19.3	35.4	10/18
118	22267939	NP_006166	nebulin-related anchoring protein	9.4	6.0	193.95	124.9	7	10/19
119	17149805	NP_476505	collagen VI, alpha-3 polypeptide	6.2	6.3	326.87	117.9	6	13/20
120	2493258	NP_033002	protein tyrosine phosphatase, non-receptor type	8.8	5.1	136.08	114.2	5	7/11

122	9055284	NP_061198	myosin VC; myosin 5C	7.9	9.9	204.09	109.6	14	17/28
124	22024390	NP_647479	potassium channel HEAG2	7.7	7.5	113	101.4	11	5/11
125	51460554	XP_371487	predicted: phospholipase B1	5.7	6.8	75.1	96.7	11.3	6/11
126	31144	NP_002461	myosin heavy chain (1167 AA)	5.2	7.6	136.57	92.9	14	9/15
127	1082578	NP_004984	Machado-Joseph disease MJD1a protein - human	4.8	7.9	41.51	92.7	20.6	5/9
130, 134	386856	NP_005563	lamin A protein	6.4	7.1	57.42	84.2	21.4	9/18
132	40786791	NP_000055	complement component 3	6	7.7	187.13	83.0	11.5	12/20
133	31417921	AAH02433	TKT protein	8.4	8.7	49.89	77.3	26.3	8/13
135	125962	NP_733821	from P02545 Lamin A/C (70 kDa lamin)	6.29	7.0	65.111	76.1	20	9/26
138	16356663	NP_036288	erythrocyte membrane protein 4.1N	5.4	5.8	97.96	72.7	9	6/15
139	27663364	NW_047732	similar to actin related protein M2	5	6.9	42.04	68.8	17	4/8
140	20070125	NP_000909	prolyl 4-hydroxylase, beta subunit	4.8	4.6	57.1	67.6	17.5	8/12
141	25108887	NP_001173	D7A1_HUMAN-aldehyde dehydrogenase family 7 member A1	6.2	7.3	55.35	66.3	23.7	11/21
143	48429222	NP_001128639	aldehyde dehydrogenase [NAD(P)]3 - human	6	6.6	50.32	63.2	24.3	10/17
145	539781		myosin heavy chain, skeletal muscle (fragment)	5.3	6.3	64.69	62.9	16	6/11
147, 154	31455264	NP_000252	myocilin, trabecular meshwork inducible glucocorticoid response	5.3	5.7	55.32	59.3	20.4	9/17
149	12643394	NP_056991	cytosol aminopeptidase (Leucine aminopeptidase) AMPL	6.3	6.7	53.15	61.4	12	4/7
153	33357604	NP_000681	chain H, aldehyde dehydrogenase complexed with Nad+ And Mg2+	5.7	6.2	54.41	59.9	20.8	9/14
155	55733034	NP_00112688 3	Uncharacterized protein C6orf62 homolog	9.3	6.1	27.09	58.3	17.9	6/9
156, 159	1144299	NP_002606	pigment epithelium-derived factor	6.6	5.6	40.05	58.0	18	6/9
157	435487	NP_000687	Aldehyde dehydrogenase E3 isozyme	5.8	6.0	51.38	57.8	10	5/18
160, 161	693933	NP_001419	2-phosphopyruvate-hydratase alpha-enolase; carbonate dehydratase	7	6.8	47.09	56.2	23.3	8/12
162	182118	NP_001966	gamma enolase	4.9	4.9	44.58	54.7	24	7/17

163	224642	XP_001478205	T cell receptor alpha	9.7	8.0	25.22	54.5	7.7	2/2
164	14042513	NP_113678	Peroxisomal Lon protease homolog 2	7.8	5.0	64.47	54.1	10	4/6
166	55593810	XP_514441	predicted, hypothetical protein XP_514441	5.9	6.8	40.71	53.0	22.9	9/20
167	563133	NP_062202	BIG-1 protein	5.8	6.1	113.51	52.7	8	5/11
168	20070158	NP_003567	serine/threonine kinase 24	5.5	5.9	49.58	52.5	14	5/10
169	381964	NP_005727	actin-related protein	6.3	6.8	42.67	52.1	22	6/15
170	10863949	NP_066969	angiopoietin-like factor [Homo sapiens]	8.3	6.7	40.51	51.9	18	5/9
172	10998649	XP_546201	interphotoreceptor retinoid-binding protein	5.2	8.5	39.3	51.4	19	5/15
174	15680208	NP_001008491	NEDD5 protein,a mammalian septin	6.1	6.6	41.46	50.4	35.7	8/22
175	12408252	XP_001723211	actin, FKSG30,	5.9	6.2	42.34	49.9	21	5/13
177	20809687	NP_937829	Astrotactin-2	5.5	5.9	50.48	49.5	19	6/15
178	4502855	NP_001816	basic-type mitochondrial creatine kinase	8.9	8.3	48	49.4	20	6/9
180	4633066	NP_002703	protein phosphatase-1 regulatory subunit 7 alpha2	5.1	6.1	36.93	48.2	19	4/7
183	71620	NP_001092	actin beta	5.3	5.9	42.08	46.0	18	5/13
185	4885063	NP_005156	aldolase C, fructose-bisphosphate	6.4	7.4	39.44	44.2	26.4	8/12
186	55859705	XP_001167009	tropomyosin 2 (beta)	4.7	4.3	36.73	43.1	17.7	7/12
187, 188	4930291	NP_000025	fructose 1,6-bisphosphate aldolase complexed with fructose 1,6-bisphosphate	8.8	9.5	39.27	42.4	21.2	7/11
189	49864	NP_033736	alpha-actin (aa 40-375)	4.8	6.1	38.02	41.6	21	5/8
190	20530221	NM_138801	BLOCK 25 (Aldose_epim)	5.6	6.7	24.13	41.2	23.1	4/7
192	179433	NP_001702	biglycan	6.8	7.0	44.66	40.2	12	5/11
193	55624920	XP_527017	predicted: neurogenic basic-helix-loop-helix protein]	8.2	8.2	12.8	38.6	45.8	4/7
194	49259212	NP_002291	chain D, human B lactate dehydrogenase complexed with Nad+ and 4- hydroxy-1,2,5- oxadiazole-3-carboxylic acid	5.9	6.0	36.52	37.9	29.1	8/16
197	433308	NP_006127	capping protein alpha	5.6	5.8	32.73	37.2	24.3	4/8
199	26344940	NP_598541	unnamed protein product	5.3	6.3	47.78	35.7	24	7/12
200, 202, 84	809190	NP_001145	annexin V, chain C	4.9	4.7	35.79	35.3	22.9	6/11

201	21755487	XP_935040	unnamed protein product	12	6.8	28.19	35.1	9.6	4/9
203	24119203	NP_705935	tropomyosin 3	4.7	4.5	29.24	34.5	21	5/13
204	4502599	NP_001748	carbonyl reductase (NADPH)	8.9	9.6	30.64	34.3	23	5/12
206	6912406	NP_064461	1,3-hydroxyanthranilate 3,4-dioxygenase	5.6	5.8	32.7	31.8	19	5/16
207	15082252	NP_149990	hypothetical protein MGC12466	9.4	5.0	46.01	31.8	21	4/10
209	5726310	NP_036611	14-3-3 gamma protein	4.7	4.6	28.53	30.9	19	5/14
210	253706	NP_035870	14-3-3 protein zeta chain [cattle, brain, Peptide, 245 aa]	4.7	4.4	27.7	30.5	29.8	8/14
211	21328448	NP_647539	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase, b-S	4.7	4.5	26.14	30.2	29.4	7/14
213	5803013	NP_006808	endoplasmic reticulum protein 29 precursor	6.8	6.1	28.98	29.9	24.5	7/15
220	999893	NP_000356	chain B, Triosephosphate Isomerase (Tim)	6.5	7.2	26.52	28.0	56	11/15
222	178775	NP_000030	proapolipoprotein	5.4	5.3	28.94	26.7	32.9	10/24
223	21669441	BAC01745	immunoglobulin kappa light chain VLJ region	4.8	6.9	29.41	26.1	19.9	4/6
224	11514458	NM_000852	chain H, glutathione transferase P1-1	5.7	5.4	23.16	25.4	24.9	4/8
225	30582607	NP_004300	Rho GDP dissociation inhibitor (GDI) alpha	5	5.0	23.19	24.8	25.5	7/10
226	55959887	NP_002565	peroxiredoxin 1	6.4	9.7	18.96	24.4	34.5	8/13
229	4507251	NP_000340	steroidogenic acute regulatory protein	9.4	5.9	32.23	21.9	20	5/9
230	2135301	NP_006699	glyoxalase I	5.1	4.9	20.99	21.1	18	4/12
232	4502419	NP_000704	biliverdin reductase B (flavin reductase (NADPH))	7.1	8.3	22.1	20.5	20.4	4/6
233	4507557	NP_003269	tetranectin (plasminogen binding protein)	5.5	5.8	22.95	19.1	33	5/13
235	4261934	NP_002558	neuropolypeptide h3	9	8.5	15.95	18.4	77.9	8/13