

SUPPLEMENT

Buneeva O.A., Kapitsa I.G., Kazieva L.Sh., Vavilov N.E., Zgoda V.G., Medvedev A.E. (2024) The delayed effect of rotenone on the relative content of brain isatin-binding proteins of rats with experimental parkinsonism. Biomeditsinskaya Khimiya, 70(1), 25-32.

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Table 1S. Rat brain proteins, the amount of which changes 5 days after course (7 days) administration of rotenone to animals (compared to control).

№	Uniprot ID	Gene name	Protein name	Function	Localisation	-LogP	Rate of change
1	A0A8L2QDJ0	<i>Cox5a</i>	Cytochrome c oxidase subunit 5A. mitochondrial	1	Mch	4.468	3.292
2	A0A8I6A8X0	<i>Cox6b1</i>	Cytochrome c oxidase subunit VIb polypeptide 1. pseudogene 1	1	Mch	1.818	2.925
3	P63045	<i>Vamp2</i>	Vesicle associated membrane protein 2B	2	S. Ve	5.231	2.499
4	P62775	<i>Mtpn</i>	Myotrophin	3	C. N	2.370	2.477
5	A0A8I5Y1E2	<i>Add1</i>	Alpha-adducin	2	PM. M. C	1.117	2.161
6	Q6AYS2	<i>Sfxn1</i>	Sidoreflexin	2	Mch. M	2.154	2.157
7	A0A8I6AN99	<i>Rps27a</i>	Ubiquitin-ribosomal protein eS31 fusion protein	6	N	3.387	2.083
8	Q7M079	<i>Status unreviewed</i>	Calcium-binding protein 4	3	S. M	1.859	2.073
9	Q8R491	<i>Ehd3</i>	EH domain-containing protein 3	2	M	1.205	1.848
10	B0K023	<i>Rpl7</i>	Large ribosomal subunit protein uL30	6	C	2.047	1.811
11	A0A8I5ZXF4	<i>Hsph1</i>	Heat shock protein 105 kDa	4	C	2.691	1.803
12	Q63754	<i>Sncb</i>	Beta-synuclein	3	C	2.593	1.793
13	A0A0G2K657	<i>Opcml</i>	Opioid-binding protein/cell	4	PM. M	2.854	1.784

			adhesion molecule				
14	P70580	<i>Pgrmc1</i>	Membrane-associated progesterone receptor component 1	3	M	2.618	1.775
15	A0A8L2PZF0	<i>Napa</i>	Alpha-soluble NSF attachment protein	2	M	1.293	1.740
16	F2Z3Q8	<i>Kpnb1</i>	Karyopherin subunit beta 1	3	N. C	1.588	1.723
17	A0A8I6GDI3	<i>Actn1</i>	Alpha-actinin-1	2	PM. M. C	1.151	1.722
18	A9UMV9	<i>Ndufa7</i>	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 7	1	Mch	1.855	1.715
19	Q9QYU4	<i>Crym</i>	Ketimine reductase mu-crystallin	3	C	3.259	1.694
20	A0A1E1ERK2	<i>Stx1a</i>	Syntaxin-1A	3	S. PM. Ve	2.300	1.676
21	B6DYP8	<i>Gsta1</i>	Glutathione S-transferase	4	C. Mch. ER. N	2.116	1.662
22	A0A8I6AG01	<i>Nedd8</i>	NEDD8	6	N. C	3.772	1.661
23	A0A0G2K8L7	<i>Cacna2d1</i>	Voltage-gated calcium channel alpha2/delta-1 subunit	2	M	2.844	1.646
24	B0BNE6	<i>Ndufs8</i>	NADH dehydrogenase [ubiquinone] iron-sulfur protein 8. mitochondrial	1	Mch	1.948	1.628
25	P08081	<i>Clta</i>	Clathrin light chain A	2	M. C. Ve	2.008	1.622
26	P31000	<i>Vim</i>	Vimentin	2	C. PM. M. N	1.778	1.611
27	A0A8I6A3S4	<i>Mog</i>	Myelin-oligodendrocyte glycoprotein	3	M	1.533	1.601
28	O35112	<i>Alcam</i>	CD166 antigen	3	PM. S	1.855	1.589
29	Q64542	<i>Atp2b4</i>	Plasma membrane calcium-	2	PM	1.747	1.583

			transporting ATPase 4				
30	Q7TQ25	<i>Omg</i>	Oligodendrocyte-myelin glycoprotein	3	M. S	1.329	1.576
31	Q02253	<i>Aldh6a1</i>	Methylmalonate-semialdehyde/malonate-semialdehyde dehydrogenase [acylating]. mitochondrial	6	Mch	1.947	1.566
32	F7FPP7	<i>Epb41l3</i>	Erythrocyte membrane protein band 4.1-like 3	2	PM. S	1.657	1.562
33	Q5XIT1	<i>Mapre3</i>	Microtubule-associated protein RP/EB family member 3	2	C	2.595	1.538
34	Q6PAH0	<i>ApoE</i>	Apolipoprotein E	7	E. Ve	2.645	1.523
35	Q63768	<i>Crk</i>	Adapter molecule crk	3	C. PM	1.961	1.520
36	Q68FQ0	<i>Cct5</i>	T-complex protein 1 subunit epsilon	4	C	1.699	1.518
37	D4ACZ4	<i>Epb41l1</i>	Erythrocyte membrane protein band 4.1-like 1	2	C	1.757	1.513
38	Q8CFN2	<i>Cdc42</i>	Cell division control protein 42 homolog	5	C. M. PM.	1.836	1.502
39	P0C1X8	<i>Aak1</i>	AP2-associated protein kinase 1	3	PM. M. S	1.672	1.487
40	A0A140TA A1	<i>Igsf8</i>	Immunoglobulin superfamily member 8	4	M. S	1.483	1.477
41	D4A8H8	<i>Cyfi1</i>	Cytoplasmic FMR1-interacting protein	3	S	1.590	1.473
42	Q9JHU0	<i>Dpysl5</i>	Dihydropyrimidinase-related protein 5	3	C	2.809	1.472
43	D4ABN3	<i>Synj1</i>	phosphoinositide 5-phosphatase	3	C. M	2.678	1.472

44	B7X6I3	<i>Cend1</i>	C38 protein	5	Mch. Ve. M	1.561	1.462
45	P97546	<i>Nptn</i>	Neuroplastin	3	PM. S	2.546	1.460
46	A0A8I6A3 D0	<i>Ivd</i>	Isovaleryl-CoA dehydrogenase. mitochondrial	6	Mch	1.611	1.459
47	A0A292G0 W2	<i>Phf24</i>	Gai-interacting protein	3	M	1.765	1.454
48	A0A8I6GI W5	<i>Capzb</i>	F-actin-capping protein subunit beta	2	C	1.676	1.448
49	P37377	<i>Snca</i>	Alpha-synuclein	3	S. C. M. N	2.419	1.444
50	P60881	<i>Snap25</i>	Synaptosomal- associated protein 25 t-SNARE	3	S. PM. C	1.598	1.443
51	Q5RJQ4	<i>Sirt2</i>	NAD-dependent protein deacetylase sirtuin-2	5	N. C. M	1.557	1.441
52	A0A8I6ANI 2	<i>Stip1</i>	Stress-induced- phosphoprotein 1	4	C	1.876	1.434
53	A0A1W2Q6 M6	<i>Nrcam</i>	Neuronal cell adhesion molecule	2	M	1.957	1.434
54	Q6AY84	<i>Scrn1</i>	Secernin-1	2	C	1.783	1.429
55	Q9EQX9	<i>Ube2n</i>	Ubiquitin- conjugating enzyme E2 N	6	C. N	1.524	1.428
56	A0A8I6AV C9	<i>Akr1a1</i>	Aldo-keto reductase family 1 member A1	4	C. M. PM	2.873	1.419
57	A0A0G2KA G3	<i>Atp6v1 g2</i>	V-type proton ATPase subunit G	2	S. M	1.583	1.412
58	A0A8I5YB U1	<i>Gdi2</i>	Rab GDP dissociation inhibitor beta	3	C. M	2.436	1.397
59	Q9JJ19	<i>Nherf1</i>	Na(+)/H(+) exchange regulatory cofactor NHE- RF1	3	C. PM	1.547	1.387
60	A0A8L2U MI0	<i>Phgdh</i>	D-3- phosphoglycerat e dehydrogenase	6	Mch	1.726	1.387

61	P38983	<i>Rpsa</i>	Small ribosomal subunit protein uS2	6	C	1.541	1.383
62	A0A8L2R883	<i>Cap2</i>	Adenylyl cyclase-associated protein	3	PM	2.318	1.370
63	A0A8I6A2Y8	<i>Nsf11c</i>	NSFL1 cofactor	2	N	1.614	1.364
64	P01830	<i>Thy1</i>	Thy-1 membrane glycoprotein	2	PM. M	1.720	1.362
65	Q00981	<i>Uchl1</i>	Ubiquitin carboxyl-terminal hydrolase isozyme L1	6	C. ER. N. Mch. PM	1.720	1.362
66	A0A0G2K4V6	<i>Cyrib</i>	CYFIP related Rac1 interactor B	3	Mch. M	3.384	1.349
67	P05065	<i>Aldoa</i>	Fructose-bisphosphate aldolase A	1	C	1.815	1.344
68	Q5M7T6	<i>Atp6v0d1</i>	V-type proton ATPase subunit	2	S. Ve. PM	2.930	1.339
69	A0A8I5ZY86	<i>Sfxn3</i>	Sidoreflexin	2	Mch. M	1.786	1.334
70	Q68FY0	<i>Uqcrc1</i>	Cytochrome b-c1 complex subunit 1. mitochondrial	1	Mch	1.935	1.317
71	A0A8I6A3S1	<i>Anxa5</i>	Annexin	2	M	1.607	1.315
72	A0A8I5ZWH0	<i>Txn11</i>	Thioredoxin-like 1	4	C. N	2.563	1.312
73	F8WFM2	<i>Napb</i>	NSF attachment protein beta	2	M	1.958	1.310
74	G3V8G4	<i>Bcan</i>	Brevican	2	S	1.987	1.301
75	F1LPG5	<i>Ndufb4</i>	NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4	1	Mch	1.725	1.300
76	P85834	<i>Tufm</i>	Elongation factor Tu. mitochondrial	3	Mch	1.826	1.276
77	P62815	<i>Atp6v1b2</i>	V-type proton ATPase subunit B. brain isoform	2	M. PM. Ve. S	2.208	1.274

78	Q9Z0W5	<i>Pacsin1</i>	Protein kinase C and casein kinase substrate in neurons protein 1	3	S. M. PM. C	2.667	1.273
79	P11598	<i>Pdia3</i>	Protein disulfide-isomerase A3	4	ER	1.968	1.272
80	O35244	<i>Prdx6</i>	Peroxiredoxin-6	4	C. L	2.117	1.245
81	P67779	<i>Phb1</i>	Prohibitin 1	3	Mch. N. PM. C	2.019	1.243
82	A0A0G2JZ T5	<i>Septin7</i>	Septin	3	C	2.408	1.223
83	Q5RKI0	<i>Wdr1</i>	WD repeat-containing protein 1	2	C	2.512	1.214
84	A0A8I6GIJ 8	<i>Slc25a1 1</i>	Mitochondrial 2-oxoglutarate/malate carrier protein	2	M	3.473	0.741
85	Q5M7A7	<i>Cnrip1</i>	CB1 cannabinoid receptor-interacting protein 1	3	C. PM	2.252	0.732
86	P25113	<i>Pgam1</i>	Phosphoglycerate mutase 1	1	C	2.939	0.731
87	P60203	<i>Plp1</i>	Myelin proteolipid protein	3	PM. M	3.005	0.719
88	B4F7C2	<i>Tubb4a</i>	Tubulin beta chain	2	C	1.732	0.718
89	A0A8I6AK V4	<i>Rgs7</i>	Regulator of G-protein signaling 7	3	PM. C	2.742	0.713
90	A0A8L2UH 84	<i>Pebp1</i>	Phosphatidylethanolamine binding protein 1	3	C. M	2.038	0.709
91	G3V983	<i>Gstm1</i>	Glutathione S-transferase	4	C	3.060	0.699
92	G3V7C6	<i>Tubb4b</i>	Tubulin beta chain	2	C	2.675	0.698
93	Q6PDU7	<i>Atp5mg</i>	ATP synthase subunit g. mitochondrial	1	Mch	2.056	0.693
94	P07323	<i>Eno2</i>	Gamma-enolase	1	C. PM	3.282	0.686

95	P14604	<i>Echs1</i>	Enoyl-CoA hydratase. mitochondrial	7	Mch	1.723	0.685
96	P04797	<i>Gapdh</i>	Glyceraldehyde-3-phosphate dehydrogenase	1	C. N	2.673	0.681
97	P84087	<i>Cplx2</i>	Complexin-2	3	C. N. S	1.923	0.663
98	D3ZC55	<i>Hspa12a</i>	Heat shock protein family A (Hsp70) member 12A	4	C. N	1.446	0.662
99	A0A140TAI8	<i>Ahcy1</i>	S-adenosylhomocysteine hydrolase-like protein 1	3	ER. C. M. Mic. PM. Mch	2.877	0.659
100	F7F3R8	<i>Ctsd</i>	Cathepsin D	6	L	1.313	0.656
101	Q5XI73	<i>Arhgdia</i>	Rho GDP-dissociation inhibitor 1	3	C	2.600	0.629
102	P07335	<i>Ckb</i>	Creatine kinase B-type	1	C. PM. Mch	4.645	0.628
103	P48500	<i>Tpi1</i>	Triosephosphate isomerase	1	C	3.432	0.607
104	A0A8I6G867	<i>Pygm</i>	Alpha-1.4 glucan phosphorylase	1	C	4.220	0.605
105	A0A8I6ALV8	<i>Tuba1b</i>	Tubulin alpha chain	2	C	3.664	0.580
106	P69897	<i>Tubb5</i>	Tubulin beta-5 chain	2	C	1.287	0.566
107	P20760	<i>Igg-2a</i>	Ig gamma-2A chain C region	4	PM	1.824	0.559
108	A0A8I5ZXS2	<i>Dld</i>	Dihydrolipoyl dehydrogenase	1	Mch. N. Ve	2.116	0.536
109	P13221	<i>Got1</i>	Aspartate aminotransferase. cytoplasmic	6	C	3.161	0.533
110	Q09073	<i>Slc25a5</i>	ADP/ATP translocase 2	2	Mch. M	1.630	0.519
111	Q5XIF6	<i>Tuba4a</i>	Tubulin alpha-4A chain	2	C	1.891	0.516
112	A0A8I6ASC7	<i>PsmA7</i>	Proteasome subunit alpha type	6	C. N	1.373	0.504
113	A0A0G2JSU1	<i>Slc1a3</i>	Amino acid transporter	2	PM. M	1.883	0.484

114	Q0QF43	<i>Mdh2</i>	Malate dehydrogenase	1	Mch. C	3.282	0.483
115	P10111	<i>Ppia</i>	Peptidyl-prolyl cis-trans isomerase A	6	C	5.330	0.477
116	Q6LDS4	<i>Status unreviewed</i>	Superoxide dismutase [Cu-Zn]	4	C	3.738	0.469
117	P18418	<i>Calr</i>	Calreticulin	4	ER. C. Ve	1.456	0.454
118	Q5BJ93	<i>Eno1</i>	Alpha-enolase	1	C	5.380	0.438
119	P00507	<i>Got2</i>	Aspartate aminotransferase. mitochondrial	6	Mch. PM	3.892	0.405
120	Q5BJT9	<i>Ckmt1</i>	Creatine kinase	1	Mch	3.420	0.364
121	P27139	<i>Ca2</i>	Carbonic anhydrase 2	1	C. PM	4.249	0.262

Note. Protein names according to Uniprot database. The numbers in the "function" column indicate the following functional groups of proteins: 1. Proteins/enzymes involved in energy generation and carbohydrate metabolism. 2. Proteins involved in cytoskeleton formation and exocytosis. 3. Proteins involved in signal transduction and regulation of enzyme activity. 4. Antioxidant and defense proteins/enzymes. 5. Proteins regulating gene expression, cell division and differentiation. 6. Enzymes involved in the metabolism of proteins, amino acids, and other nitrogenous compounds. 7. Enzymes involved in lipid metabolism. Localization: C - cytoplasm, N - nucleus, M - membranes, PM - plasma membrane, ER - endoplasmic reticulum, G - Golgi complex, Mch - mitochondria, L - lysosomes, Mic - microsomes, E - endosomes, Ve - vesicles, S - synapse.