

SUPPLEMENT

Buneeva O.A., Kopylov A.T., Nerobkova L.N., Kapitsa I.G., Zgoda V.G., Medvedev A.E.,
The effect of neurotoxin MPTP administration to mice on the proteomic profile of brain
isatin-binding proteins, *Biomeditsinskaya khimiya*, 2017, vol: 63(4), 316-320.
10.18097/PBMC20176304316

Table. Proteomic profiles of mouse brain isatin-binding proteins

Control animals

No	Protein name	Database Accession Number
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I Proteins/enzymes involved in energy generation and carbohydrate metabolism

1	ATP synthase subunit beta, mitochondrial	P56480
2	Creatine kinase U-type, mitochondrial	P30275
3	Creatine kinase, sarcomeric mitochondrial precursor	Q6P8J7
4	Glyceraldehyde-3-phosphate dehydrogenase (EC 1.2.1.12)	P16858
5	Hexokinase-1	P17710
6	Pyruvate dehydrogenase E1 component subunit beta, mitochondrial precursor	Q9D051

II Proteins involved in cytoskeleton formation, exocytosis, and membrane transport

1	Actin, cytoplasmic 2	P63260
2	Actin, cytoplasmic 1	P60710
3	AP-1 complex subunit beta-1	O35643
4	AP-2 complex subunit beta	Q9DBG3
5	Catenin alpha-1	P26231
6	Clathrin heavy chain	Q68FD5
7	Cytoplasmic dynein 1 heavy chain 1	Q9JHU4
8	Cytoplasmic dynein 2 heavy chain 1	Q45VK7
9	Cytospin-A	Q2KN98
10	Dynamamin-1	P39053
11	Dynein heavy chain 2, axonemal	P0C6F1
12	Electrogenic sodium bicarbonate cotransporter 1	O88343
13	Formin-2	Q9JL04
14	Glial fibrillary acidic protein	P03995
15	GPIP and coiled-coil domain-containing protein 2	Q8CHG3
16	Hephaestin	Q9Z0Z4
17	Huntingtin-interacting protein 1-related protein	Q9JKY5
18	Matrin-3	Q8K310
19	Microtubule-actin cross-linking factor 1	Q9QXZ0

20	Microtubule-associated protein 1A	Q9QYR6
21	Microtubule-associated protein 1B	P14873
22	Obscurin	A2AAJ9
23	Plakophilin-1	P97350
24	Plectin-1	Q9QXS1
25	Sodium-dependent phosphate transport protein 1	Q61983
26	Sorting nexin-14 (cellular trafficking)	Q8BHY8
27	Spectrin alpha chain, brain	P16546
28	Synaptotagmin-1	P46096
29	Synaptotagmin-4	P40749
30	Syntaxin-binding protein 1	O08599
31	Tubulin alpha-3 chain	P05214
32	Tubulin alpha-4A chain	P68368
33	Tubulin alpha-8 chain	Q9JJZ2
34	Tubulin beta-2A chain	Q7TMM9
35	Tubulin beta-2B chain	Q9CWF2
36	Tubulin beta-2C chain	P68372
37	Tubulin beta-3 chain	Q9ERD7
38	Tubulin beta-4 chain	Q9D6F9
39	Tubulin beta-5 chain	P99024
40	Tubulin beta-6 chain	Q922F4
41	Vesicle transport protein SFT2B	Q8VD57

III Proteins/enzymes involved in regulation of gene expression, cell division, and differentiation

1	Coiled-coil domain-containing protein 27	Q3V036
2	Dihydropyrimidinase-related protein 2	Q08553
3	DNA mismatch repair protein Msh6	P54276
4	DNA topoisomerase 2-beta	Q64511
5	Elongation factor 1-alpha-2	P62631
6	Eukaryotic translation initiation factor 5B	Q05D44
7	Heterogeneous nuclear ribonucleoprotein A/B	Q99020
8	Heterogeneous nuclear ribonucleoprotein A2/B1	O88569
9	Heterogeneous nuclear ribonucleoprotein A3	Q8BG05
10	Heterogeneous nuclear ribonucleoproteins C1/C2	Q9Z204
11	Heterogeneous nuclear ribonucleoprotein D	Q9Z130
12	Heterogeneous nuclear ribonucleoprotein D0	Q60668
13	Heterogeneous nuclear ribonucleoprotein K	P61979
14	Heterogeneous nuclear ribonucleoprotein L	Q8R081
15	Heterogeneous nuclear ribonucleoprotein Q	Q71MK9
16	Leucine zipper protein 1	Q8R4U7
17	Lysine-specific histone demethylase 1	Q6ZQ88
18	Protein FAM71B	Q5STT6
19	Putative RNA-binding protein 15B	Q6PHZ5
20	40S ribosomal protein	P62082
21	Small nuclear ribonucleoprotein Sm D1	P62316

22	Transcriptional activator protein Pur-alpha (Purine-rich single-stranded DNA-binding protein alpha)	P42669
23	Transcription factor 20 V=2	Q9EPQ8
24	Zinc finger CCCH domain-containing protein 14	Q8BJ05
25	Zinc finger homeobox protein 4	Q9JJN2
26	Zinc finger protein 280D	Q68FE8
27	Zinc finger protein 518	B2RRF6
28	Zinc finger protein 62	Q8C827
29	Zinc finger protein 608	Q56A10
30	Zinc finger transcription factor Trps1	Q925H1

IV Proteins/enzymes involved in cell signaling and signal transduction

1	Aryl hydrocarbon receptor nuclear translocator-like protein 2	Q2VPD4
2	Calcium-binding mitochondrial carrier protein SCaMC-1	Q8BMD8
3	Calcium/calmodulin-dependent protein kinase type II subunit alpha	P11798
4	Calcium/calmodulin-dependent protein kinase type II subunit delta	Q6PHZ2
5	Calcium/calmodulin-dependent protein kinase type II subunit gamma	Q923T9
6	Cannabinoid receptor 1	P47746
7	ELAV-like protein 1	P70372
8	G-protein coupled receptor-associated sorting protein 1	Q5U4C1
9	Grancalcin	Q8VC88
10	Inositol 1,4,5-trisphosphate receptor type 1	P11881
11	Leucine-rich repeat serine/threonine-protein kinase 2	Q5S006
12	Low-density lipoprotein receptor-related protein	A2ARV4
13	Mitogen-activated protein kinase kinase kinase MLT	Q9ESL4
14	Myc-box-dependent-interacting protein 1	Q08539
15	Nuclear receptor corepressor 1	Q60974
16	Phosphatidylinositol-4-phosphate 3-kinase C2 domain-containing gamma polypeptide	O70167
17	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase epsilon-1	Q8K4S1
18	1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase eta-1	Q4KWH5
19	Ral GTP-ase activating protein alpha subunit 2	A3KGS3
20	Rho-associated protein kinase 2	P70336
21	Serine/threonine-protein phosphatase 6 regulatory ankyrin repeat subunit B	B2RXR6
22	Ubiquitin	P62991
23	Zinc finger FYVE domain-containing protein 9	Q5DU37

V Antioxidant enzymes and protective proteins

1	Heat shock 70 kDa protein 1A	Q61696
2	Heat shock 70 kDa protein 1B	P17879
3	Heat shock 70 kDa protein 4	Q61316
4	Heat shock cognate 70 kDa protein 2	P17156
5	Heat shock cognate 71 kDa protein (Heat shock 70 kDa protein 8)Heat shock-related 70 kDa protein 2	P63017

6 Superoxide dismutase [Cu-Zn] P08228

**VI Enzymes involved in metabolism of proteins, amino acids
and other nitrogenous compounds**

1	Alanine--glyoxylate aminotransferase 2, mitochondrial	Q3UEG6
2	Arginase-1	Q61176
3	E3 ubiquitin-protein ligase MIB2	Q8R516
4	E3 ubiquitin-protein ligase HUWE1	Q7TMY8
5	F-box/WD repeat-containing protein 7	Q8VBV4
6	Probable E3 ubiquitin-protein ligase MYCBP2	Q7TPH6
7	Proteasome activator complex subunit 2	P97372
8	Ubiquitin carboxyl-terminal hydrolase 24	B1AY13
9	Ubiquitin-conjugating enzyme E2 O	Q6ZPJ3

VII Enzymes involved in lipid metabolism

1	Perilipin 4	O88492
2	Acyl-coenzyme A synthetase ACSM1, mitochondrial	Q91VA0
3	Long-chain-fatty-acid CoA ligase 3	O35488

Animals 90 min after MPTP administration (30 mg/kg)

No	Protein name	Database Accession Number
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I Proteins/enzymes involved in energy generation and carbohydrate metabolism

1	Creatine kinase, ubiquitous mitochondrial precursor	P30275
2	Pyruvate dehydrogenase E1 component subunit beta, mitochondrial precursor	Q9D051

II Proteins involved in cytoskeleton formation, exocytosis, and membrane transport

1	Actin, cytoplasmic 1	P60710
2	AP-2 complex, subunit alpha-1	P17426
3	AP-2 complex, subunit beta-1	Q9DBG3
4	Cytoplasmic dynein 1 heavy chain 1	Q9JHU4
5	Cytoplasmic dynein 2 heavy chain 1	Q45VK7
6	Dynein heavy chain 3, axonemal	Q8BW94
7	ELAV-like protein 1	P70372
8	FRAS1-related extracellular matrix protein 2	Q6NVD0
9	Glial fibrillary acidic protein	P03995
10	Importin subunit alpha-2	P52293
11	MAP7 domain-containing protein 2	A2AG50
12	Microtubule-associated protein 1A	Q9QYR6
13	Microtubule-associated protein 1B	P14873
14	Myoferlin	Q69ZN7
15	Protein diaphanous homolog 1	O08808
16	Titin	A2ASS6
17	Tuberin	Q61037
18	Tubulin alpha-3 chain	P05214
19	Tubulin alpha -4A chain	P68368
20	Tubulin alpha -8 chain	Q9JJZ2
21	Tubulin beta-2A chain	Q7TMM9
22	Tubulin beta-2B chain	Q9CWF2
23	Tubulin beta-2C chain	P68372
24	Tubulin beta-3 chain	Q9ERD7
25	Tubulin beta-4 chain	Q9D6F9
26	Tubulin beta-5 chain	P99024
27	Tubulin beta-6 chain	Q922F4

III Proteins/enzymes involved in regulation of gene expression, cell division, and differentiation

1	Dihydropyrimidinase-related protein 2	O08553
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2	DNA topoisomerase 2-beta	Q64511
3	Heterogeneous nuclear ribonucleoprotein A1	P49312
4	Heterogeneous nuclear ribonucleoprotein A2/B1	O88569
5	Heterogeneous nuclear ribonucleoprotein A3	Q8BG05
6	Heterogeneous nuclear ribonucleoprotein H	O35737
7	Heterogeneous nuclear ribonucleoprotein H2	P70333
8	Heterogeneous nuclear ribonucleoprotein K	P61979
9	Heterogeneous nuclear ribonucleoprotein L	Q8R081
10	Heterogeneous nuclear ribonucleoprotein Q	Q7TMK9
11	Leucine-rich PPR motif-containing protein	Q6PB66
12	PHD and RING finger domain-containing protein 1	A6H619
13	Poly [ADP-ribose] polymerase 1	P11103
14	Splicing factor, praline-and glutamine-rich	Q8VIG6
15	Rho guanine nucleotide exchange factor 10	Q8C033
16	Transcriptional activator protein Pur-alpha	P42669
17	Translation initiation factor eIF-2B subunit alpha	Q99LC8

IV Proteins/enzymes involved in cell signaling and signal transduction

1	A-kinase anchor protein 4 precursor	Q60662
2	Calcium/calmodulin-dependent protein kinase type II alpha subunit	P11798
3	G-protein coupled receptor-associated sorting protein 1	Q5U4C1
4	Guanine nucleotide exchange factor VAV2	Q60992
5	Inositol hexakisphosphate and diphosphoinositol-pentakisphosphate kinase 2	Q6ZQB6
6	Metabotropic glutamate receptor 5	Q3UVX5
7	Nuclear receptor coactivator 2	Q61026
8	Rho-associated protein kinase 1	P70335
9	Protein FAM185A	Q7TPD2
10	Proto-oncogene tyrosine-protein kinase ABL1	P00520
11	Tyrosine-protein kinase FRK	Q922K9

V Antioxidant enzymes and protective proteins

1	Heat shock cognate 71 kDa protein	P63017
2	Peroxiredoxin-1	P35700
3	Proteasome subunit beta type-8	P28063
4	Superoxide dismutase [Cu-Zn]	P08228

VI Enzymes involved in metabolism of proteins, amino acids and other nitrogenous compounds

1	Arginase-1	Q61176
2	Carboxypeptidase M	Q80V42
3	Probable E3 ubiquitin-protein ligase MYCBP2	Q7TPH6

VII Enzymes involved in lipid metabolism

1	Acetyl-CoA acetyltransferase, cytosolic	Q8CAY6
2	Alpha-aminoadipic semialdehyde dehydrogenase	Q9DBF1

Animals seven days after MPTP administration (30 mg/kg)

No	Protein name	Database Accession Number
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I Proteins/enzymes involved in energy generation and carbohydrate metabolism

1	Glyceraldehyde-3-phosphate dehydrogenase	Q64467
2	L-lactate dehydrogenase A chain	P06151

II Proteins involved in cytoskeleton formation, exocytosis, and membrane transport

1	BTB/POZ domain-containing protein KCTD3	Q8BFX3
2	Calmodulin-regulated spectrin-associated protein 1	A2AHC3
3	CAP-Gly domain-containing linker protein 2	Q9Z0H8
4	Clathrin heavy chain 1	Q68FD5
5	Cytoplasmic dynein 2 heavy chain 1	Q45VK7
6	Cytoskeleton-associated protein 5	A2AGT5
7	Dynein heavy chain 2, axonemal	P0C6F1
8	Dynein heavy chain 8, axonemal	Q91XQ0
9	Ena/VASP-like protein	P70429
10	Excitatory amino acid transporter 2	P43006
11	FERM domain-containing protein 4A	Q8BIE6
12	Gelsolin	P13020
13	Myosin-6	Q02566
14	Myosin-VIIb	Q99MZ6
15	Periaxin	O55103
16	Spectrin beta chain, brain 1	Q62261
17	Synapsin-1	O88935
18	Syntaxin-binding protein 1	O08599
19	Talin-1	P26039
20	Titin	A2ASS6
21	Tubulin alpha-1A chain	P68369
22	Tubulin alpha-1B chain	P05213
23	Tubulin alpha-1C chain	P68373
24	Tubulin alpha-4A chain	P68368
25	Tubulin beta-2B chain	Q9CWF2
26	Tubulin beta-2A chain	Q7TMM9

27	Tubulin beta-2C chain	P68372
28	Tubulin beta-5 chain	P99024
29	Tubulin beta-4 chain	Q9D6F9
30	Vinculin	Q64727

III Proteins/enzymes involved in regulation of gene expression, cell division, and differentiation

1	Ataxin-7	Q8R4I1
2	Armadillo repeat-containing X-linked protein 2	Q6A058
3	ATP-dependent RNA helicase DHX8	A2A4P0
4	BAH and coiled-coil domain-containing protein 1	Q3UHR0
5	Cleavage and polyadenylation specificity factor subunit 2	O35218
6	Coiled-coil and C2 domain-containing protein 1B	Q8BRN9
7	Coiled-coil domain-containing protein 135	Q6V3W6
8	Dihydropyrimidinase-related protein 2	O08553
9	DNA cross-link repair 1A protein	Q9JIC3
10	DNA topoisomerase 2-beta SV=2	Q64511
11	Erythroid differentiation-related factor 1	Q6GQV7
12	Eukaryotic translation initiation factor 2A	Q8BJW6
13	Eukaryotic translation initiation factor 3 subunit L	Q8QZY1
14	5'-3' exoribonuclease 1	P97789
15	General transcription factor IIH subunit 2	Q9JIB4
16	G2/mitotic-specific cyclin-B3	Q810T2
17	Heterogeneous nuclear ribonucleoprotein L	Q8R081
18	Histone-lysine N-methyltransferase MLL3	Q8BRH4
19	Isoleucyl-tRNA synthetase, cytoplasmic	Q8BU30
20	80 kDa MCM3-associated protein	Q9WUU9
21	Latent-transforming growth factor beta-binding protein 1	Q8CG19
22	Lysine-specific histone demethylase 1	Q6ZQ88
23	Mediator of RNA polymerase II transcription subunit 1	Q925J9
24	Nuclear receptor coactivator 6	Q9JL19
25	Pogo transposable element with ZNF domain	Q8BZH4
26	Putative ATP-dependent RNA helicase TDRD9	Q14BI7
27	Putative Polycomb group protein ASXL3	Q8C4A5
28	RNA-binding protein PNO1	Q9CPS7
29	SET-binding protein	Q9Z180
30	Sister chromatid cohesion protein PDS5 homolog A	Q6A026
31	Structural maintenance of chromosomes protein 6	Q924W5
32	Transducin-like enhancer protein 1	Q62440
33	Transducin-like enhancer protein 3	Q08122
34	Transcription factor AP-2 beta	Q61313
35	Transcriptional regulator ATRX	Q61687
36	Trinucleotide repeat-containing gene 18 protein	Q80WC3
37	Tudor domain-containing protein 6	P61407
38	Zinc finger protein 687	Q9D2D7
39	Zinc finger protein 786	Q8BV42
40	Zinc finger ZZ-type and EF-hand domain-containing protein 1	Q5SSH7

IV Proteins/enzymes involved in cell signaling and signal transduction

1	Acetylcholinesterase collagenic tail peptide	O35348
2	A-kinase anchor protein 4	Q60662
3	A-kinase anchor protein 12	Q9WTQ5
4	Alsin	Q920R0
5	Atlastin-2	Q6PA06
6	ATP-binding cassette sub-family A member 9	Q8K449
7	Breast cancer type 1 susceptibility protein homolog	P48754
8	CASP8-associated protein 2	Q9WUF3
9	CDK5 regulatory subunit-associated protein 2	Q8K389
10	Dedicator of cytokinesis protein 11	A2AF47
11	FYVE, RhoGEF and PH domain-containing protein 6	Q69ZL1
12	Gamma-aminobutyric acid receptor subunit alpha-4	Q9D6F4
13	GTP-binding protein 10	Q8K013
14	GTP-binding protein REM 2	Q8VEL9
15	Inactive phospholipase C-like protein 2	Q8K394
16	Inositol 1,4,5-trisphosphate receptor type 1	P11881
17	Insulin-like growth factor 1 receptor	Q60751
18	Interferon-induced very large GTPase 1	Q80SU7
19	Interleukin-12 receptor beta-2 chain	P97378
20	Mitochondrial tumor suppressor 1 homolog	Q5HZI1
21	Netrin-4	Q9JI33
22	Neuronal-specific septin-3	Q9Z1S5
23	Phosphatidylinositol-4-phosphate 3-kinase C2 domain-containing alpha polypeptide	Q61194
24	Proenkephalin-A	P22005
25	Protein FAM3D	P97805
26	Protein phosphatase 1 regulatory subunit 12B	Q8BG95
27	Protocadherin Fat 3	Q8BNA6
28	Putative Polycomb group protein ASXL1	P59598
29	Serine/threonine-protein kinase DCLK2	Q6PGN3
30	Serine/threonine-protein kinase WNK3	Q80XP9
31	SLAM family member 5	Q18PI6
32	Sperm-associated antigen 17	Q5S003
33	TBC1 domain family member 5	Q80XQ2
34	Transient receptor potential cation channel subfamily M member 6	Q8CIR4
35	Tyrosine-protein kinase HCK	P08103
36	Tyrosine-protein kinase Tec	P24604
37	Ubiquitin domain-containing protein UBFD1	Q78JW9

V Antioxidant enzymes and protective proteins

1	B-lymphocyte antigen CD20	P19437
2	Cell death activator CIDE-3	P56198
3	NK-tumor recognition protein	P30415

5	T-complex protein 1 subunit alpha B	P11983
6	T-complex protein 1 subunit epsilon	P80316

VI Enzymes involved in metabolism of proteins, amino acids and other nitrogenous compounds

1	ATP-dependent metalloprotease YME1L1	O88967
2	Cytosolic carboxypeptidase-like protein 5	Q09M02
3	E3 ubiquitin-protein ligase HUWE1	Q7TMY8
4	F-box/LRR-repeat protein 13	Q8CDU4
5	Glutamate decarboxylase-like protein 1	Q80WP8
6	Peptidyl-glycine alpha-amidating monooxygenase	P97467
7	UPF0498 protein KIAA1191	Q9DBN4

VII Enzymes involved in lipid metabolism

1	Long-chain-fatty-acid--CoA ligase 4	Q9QUJ7
2	Microsomal triglyceride transfer protein large subunit	O08601
3	Perilipin-4	O88492
