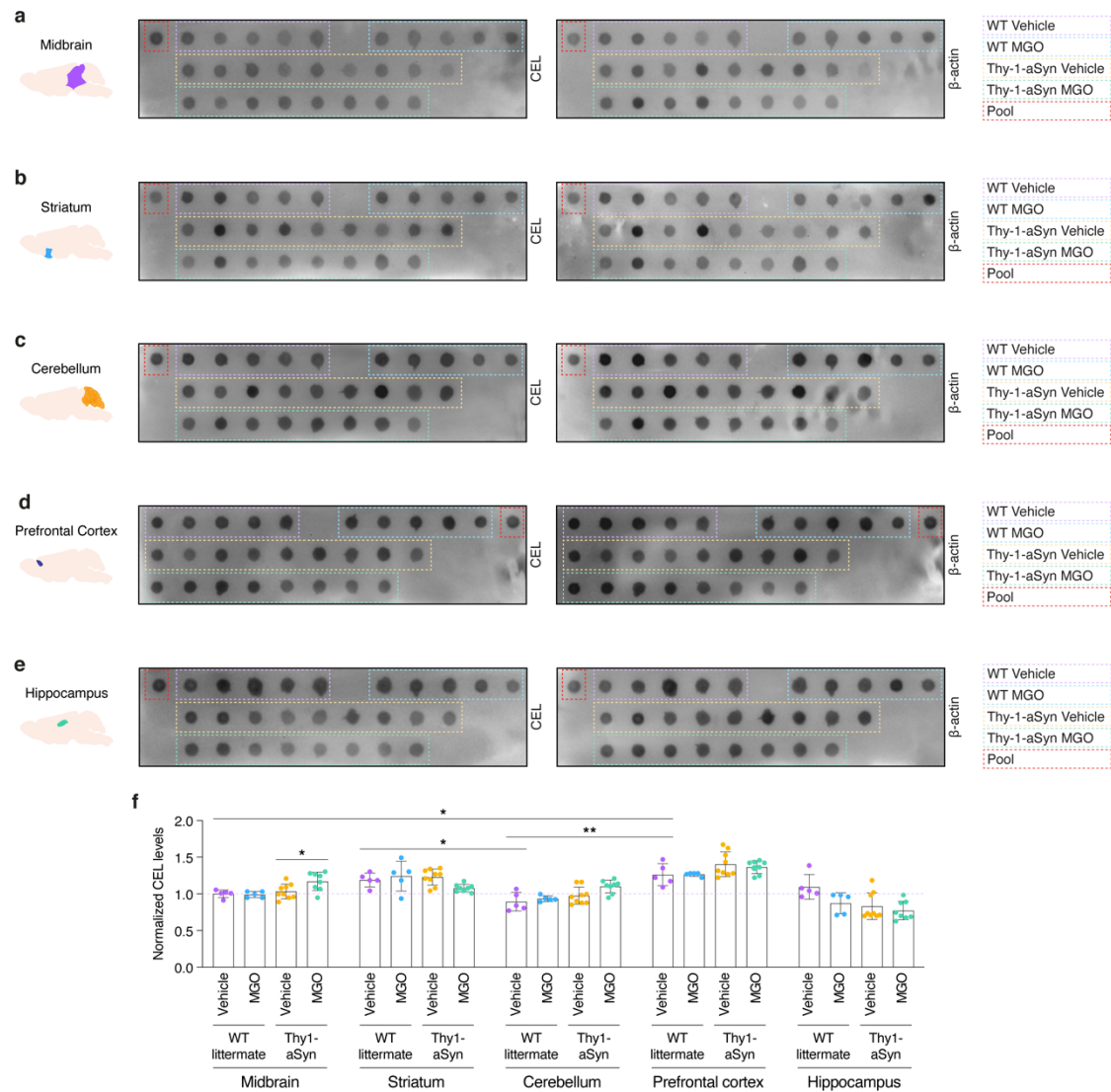
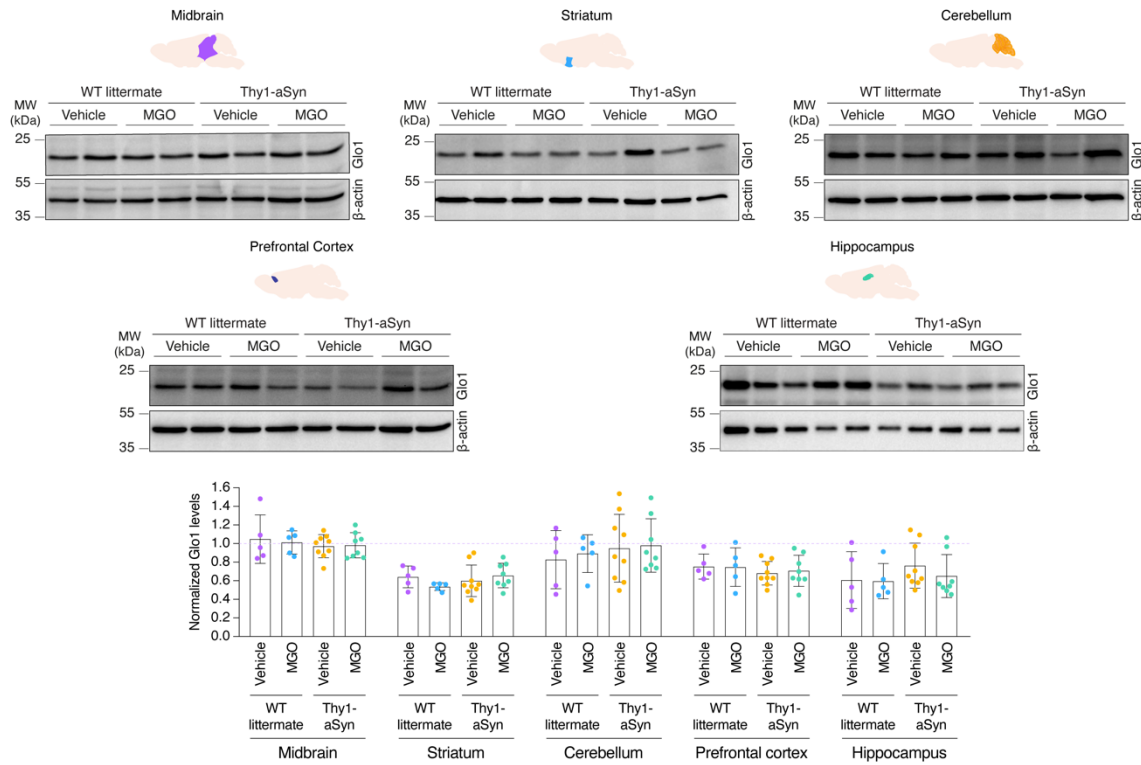


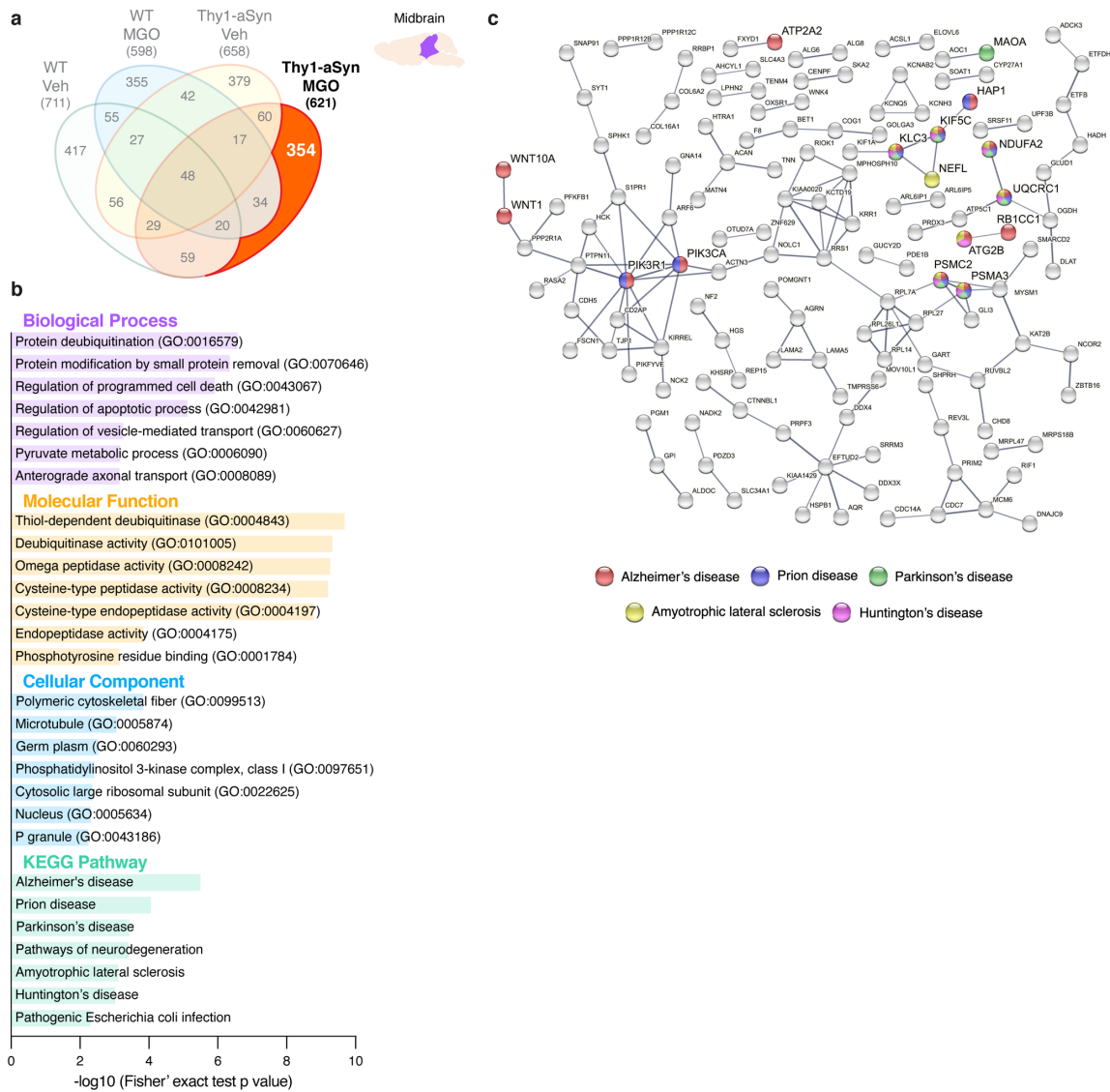
Supplementary Figure 1. Non-altered mice behavior. Plot representations of mice demographics: **(a)** age in weeks and **(b)** weight in g at MGO ICV injection. **(c)** Schematic of experimental design: wild-type littermate (WT) and Thy1-aSyn transgenic (Tg) mice received an intracerebroventricular (ICV) injection of MGO or vehicle (PBS) at 16 weeks of age. Behavioral testing started 4 weeks post-surgery. Plot representations of: **(d)** wire hang test; **(e)** adhesive removal test; open field test - **(f)** total distance, **(g)** distance in the inner zone, **(h)** time in the inner zone, **(i)** average speed, **(j)** number of entries; Elevated plus maze test - **(k)** time on open arms, and **(l)** number of entries; At least n=5 in all groups, data in all panels are average ± standard deviation.



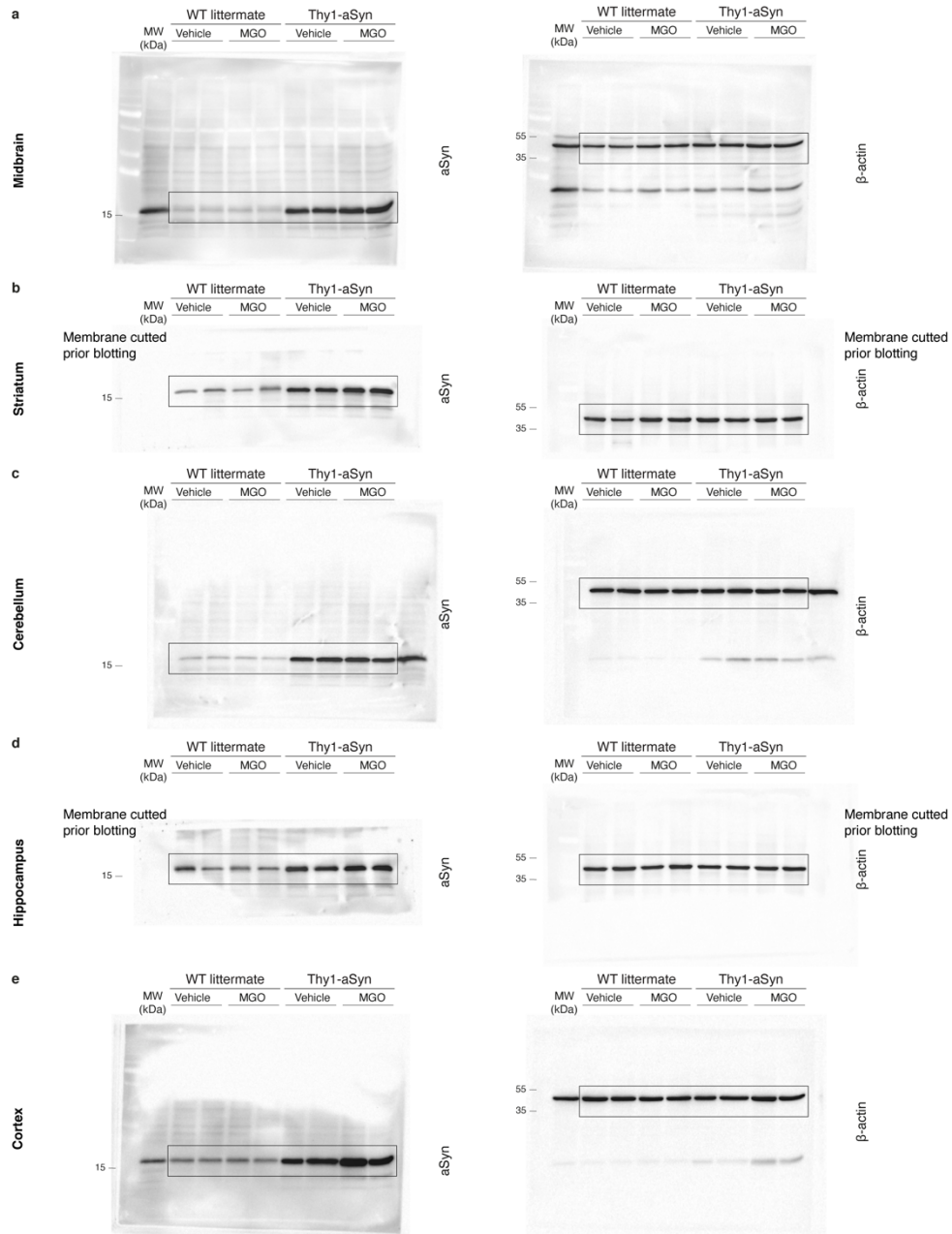
Supplementary Figure 2. Signal of glycated protein in different brain regions of all experimental groups. Wild-type littermate (WT) and Thy1-aSyn transgenic mice received an intracerebroventricular (ICV) injection of MGO or vehicle (PBS) and protein brain extracts from several regions analyzed 5 weeks post-injection. Protein extracts loaded into nitrocellulose membranes in a dot blot system and probed with anti-CEL and anti- β -actin, for normalization. Representative blots from all samples from each experimental group and a pool sample for inter-gel comparison are shown for **(a)** midbrain, **(b)** striatum, **(c)** cerebellum, **(d)** prefrontal cortex and **(e)** hippocampus, respectively. **(f)** Plots of the densitometric analysis is shown comparing CEL levels between all areas and experimental groups. At least $n=5$ in all groups, data in all panels are average \pm standard deviation, Ordinary one-way ANOVA, $*p < 0.05$, $**p < 0.01$.



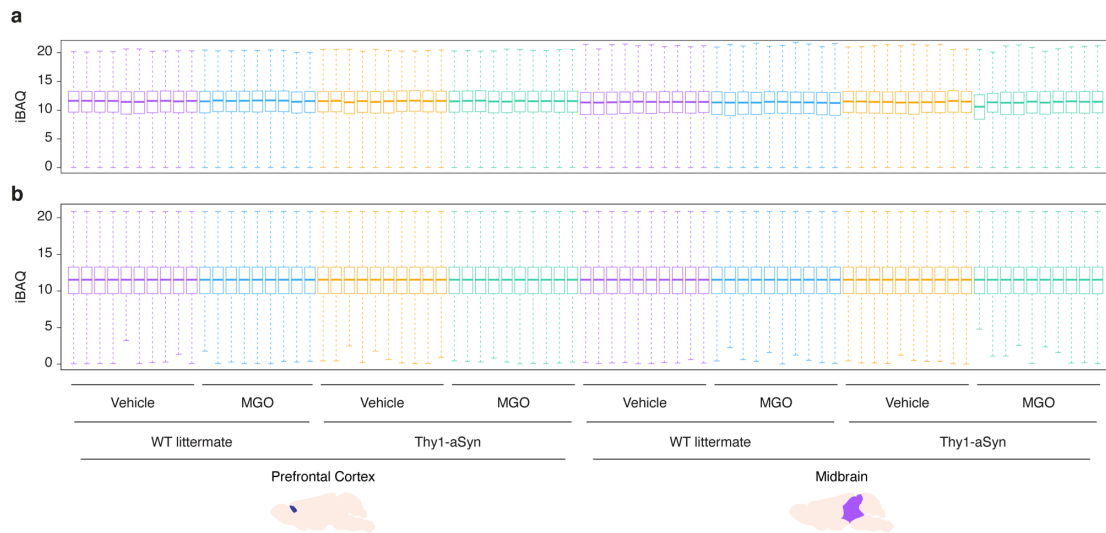
Supplementary Figure 3. The levels of glyoxalase I are similar across different brain regions of all experimental groups. Wild-type littermate (WT) and Thy1-aSyn transgenic mice received an intracerebroventricular (ICV) injection of MGO or vehicle (PBS) and protein brain extracts from several regions analyzed 5 weeks post-injection. Protein extracts were resolved by SDS-PAGE, loaded into membranes, and probed with anti-glyoxalase I and anti- β -actin, for normalization. Representative blots including 2 samples from each experimental group are shown for glyoxalase I and β -actin. Densitometric analysis is represented comparing normalized glyoxalase I levels between all areas and experimental groups. At least $n=5$ in all groups, data in all panels are average \pm standard deviation.



Supplementary Figure 4. Uniquely glycosylated midbrain proteins in MGO-injected Thy1-aSyn mice correlate with neurodegenerative-associated pathways. Glycation profile of midbrain proteins from the different experimental groups. **(a)** Venn diagram depicting uniquely glycosylated proteins in MGO-injected Thy1-aSyn mice (354). **(b)** KEGG pathways and gene ontology GO terms analysis is presented for the uniquely glycosylated proteins in MGO-injected Thy1-aSyn mice. Distribution of $-\log_{10}$ (Fisher exact test p value) is shown. **(c)** Protein-protein interaction networks of the uniquely glycosylated proteins in MGO-injected Thy1-aSyn mice, extracted from the STRING 11.0 database. Only the proteins that are interacting within a network are shown. KEGG pathways or GO Biological processes are color coded.



Supplementary Figure 5. Non-cropped blots of biochemical analysis. Non-cropped blots of data presented in Fig. 2.



Supplementary Figure 6. Boxplots of intensity-based absolute quantification (iBAQ) values of the SWATH-MS proteomic analysis. Boxplot representation of outlier-removed (a) raw and (b) normalized iBAQ values for each performed SWATH-MS run.

Supplementary Table 1. List of uniquely altered proteins in the midbrain of MGO injected Thy1-aSyn. Mouse proteins nomenclature is used.

Protein	Annotation	Fold-change
Mapk3	Mitogen-activated protein kinase 3	0.17
Svip	Small VCP/p97-interacting protein	0.18
Tmem33	Transmembrane protein 33	0.23
Map7d2	MAP7 domain containing 2	0.25
Cox7a2	Cytochrome c oxidase subunit 7A2, mitochondrial	0.28
Denr	Density-regulated protein	0.30
Brsk2	Serine/threonine-protein kinase BRSK2	0.32
Hmgb1	High mobility group protein B1	0.36
Rpl36	60S ribosomal protein L36	0.37
Dhrs1	Dehydrogenase/reductase (SDR family) member 1	0.41
Syp	Synaptophysin	0.42
Lrat	Lecithin retinol acyltransferase	0.44
Mecp2	Methyl-CpG-binding protein 2	0.49
Cmb1	Carboxymethylenebutenolidase homolog	0.52
Mpp1	55 kDa erythrocyte membrane protein	0.55
Hpcal1	Hippocalcin-like protein 1	0.57
Atp1b2	Sodium/potassium-transporting ATPase subunit beta-2	0.57
Nif3l1	NIF3-like protein 1	0.58
Prkar2a	cAMP-dependent protein kinase type II-alpha regulatory subunit	0.60
Pgd	6-phosphogluconate dehydrogenase, decarboxylating	0.60
Apmap	Adipocyte plasma membrane-associated protein	0.61
Map7d1	MAP7 domain containing 1	0.63
Csrp1	Cysteine and glycine-rich protein 1	0.64
Dctn4	Dynactin subunit 4	0.65
Txn1l	Thioredoxin-like protein 1	0.65
Anxa5	Annexin A5	0.65
Lgi3	Leucine-rich repeat LGI family member 3	0.71
Cmpk2	UMP-CMP kinase 2, mitochondrial	0.71
Lin7c	Protein lin-7 homolog C	0.73
Akr1a1	Alcohol dehydrogenase [NADP(+)]	0.75
Nefh	Neurofilament heavy polypeptide	0.75
Ethe1	Persulfide dioxygenase ETHE1, mitochondrial	0.76
Eci2	Enoyl-CoA delta isomerase 2, mitochondrial	0.78
Psat1	Phosphoserine aminotransferase	0.80
Serp1b1a	Leukocyte elastase inhibitor A	0.81
Cbr1	Carbonyl reductase [NADPH] 1	1.19
Npepps	Puromycin-sensitive aminopeptidase	1.20
Sirt2	NAD-dependent protein deacetylase sirtuin-2	1.21
Pfkm	ATP-dependent 6-phosphofructokinase, muscle type	1.21

Protein	Annotation	Fold-change
Fam162a	Protein FAM162A	1.23
Uba1	Ubiquitin-like modifier-activating enzyme 1	1.24
Fnbp1	Formin-binding protein 1	1.24
Hspa5	78 kDa glucose-regulated protein	1.24
Hspd1	60 kDa heat shock protein, mitochondrial	1.24
Ppp1r7	Protein phosphatase 1 regulatory subunit 7	1.25
Ppia	Peptidyl-prolyl cis-trans isomerase A	1.25
Rtcb	tRNA-splicing ligase RtcB homolog	1.25
Cttn	Src substrate cortactin	1.25
Oxct1	Succinyl-CoA:3-ketoacid coenzyme A transferase 1, mitochondrial	1.25
My12b	Myosin regulatory light chain 12B	1.26
Capzb	F-actin-capping protein subunit beta	1.27
Actr3	Actin-related protein 3	1.27
Atp6v1h	V-type proton ATPase subunit H	1.27
Ckb	Creatine kinase B-type	1.27
Ahcy	S-adenosylhomocysteine hydrolase	1.28
Opa3	Optic atrophy 3 protein homolog	1.28
Ncl	Nucleolin	1.28
Ncam1	Neural cell adhesion molecule 1	1.28
Letm1	Mitochondrial proton/calcium exchanger protein	1.28
Blmh	Bleomycin hydrolase	1.29
Nsfl1c	NSFL1 cofactor p47	1.29
Pdha1	Pyruvate dehydrogenase E1 component subunit alpha, somatic form, mitochondrial	1.29
Srsf1	Serine/arginine-rich splicing factor 1	1.30
Prkcb	Protein kinase C beta type	1.31
Srm	Spermidine synthase	1.32
Ndufa8	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8	1.33
Dusp3	Dual specificity protein phosphatase 3	1.33
Inpp1	Inositol polyphosphate-1-phosphatase	1.34
Camkv	CaM kinase-like vesicle-associated protein	1.34
Slc1a3	Excitatory amino acid transporter 1	1.34
Hnrnpm	Heterogeneous nuclear ribonucleoprotein M	1.35
Dlg1	Disks large homolog 1	1.35
Bsn	Protein bassoon	1.35
Rtn1	Reticulon-1	1.35
Tpt1	Translationally-controlled tumor protein	1.36
Hdhd2	Haloacid dehalogenase-like hydrolase domain containing 2	1.37
Camk1d	Calcium/calmodulin-dependent protein kinase type 1D	1.38
Gls	Glutaminase kidney isoform, mitochondrial	1.38
Srcin1	SRC kinase signaling inhibitor 1	1.39
Gsk3b	Glycogen synthase kinase-3 beta	1.40

Protein	Annotation	Fold-change
Eno1	Alpha-enolase	1.40
Pfkl	ATP-dependent 6-phosphofructokinase, liver type	1.41
Rph3a	Rabphilin-3A	1.41
Me3	Malic enzyme 3, NADP(+)-dependent, mitochondrial	1.41
Gpr158	Probable G-protein coupled receptor 158	1.41
Ctnnd1	Catenin (cadherin associated protein), delta 1	1.41
Acy	ATP-citrate synthase	1.42
Cyfp2	Cytoplasmic FMR1-interacting protein 2	1.42
Ndufc2	NADH dehydrogenase [ubiquinone] 1 subunit C2	1.42
Snd1	Staphylococcal nuclease domain-containing protein 1	1.43
Fn3krp	Ketosamine-3-kinase	1.43
Fech	Ferrochelatase, mitochondrial	1.43
Ppp1r1b	Protein phosphatase 1 regulatory subunit 1B	1.43
Ube2k	Ubiquitin-conjugating enzyme E2 K	1.45
Sec31a	Protein transport protein Sec31A	1.46
Sh3bgrl3	SH3 domain-binding glutamic acid-rich-like protein 3	1.47
Actr2	Actin-related protein 2	1.47
C1qbp	Complement component 1 Q subcomponent-binding protein, mitochondrial	1.48
Gpd1l	Glycerol-3-phosphate dehydrogenase 1-like protein	1.48
Dpp10	Inactive dipeptidyl peptidase 10	1.49
Slc2a3	Solute carrier family 2, facilitated glucose transporter member 3	1.50
Gria3	Glutamate receptor 3	1.50
Rgs7	Regulator of G-protein signaling 7	1.50
Hpcal4	Hippocalcin-like protein 4	1.56
Tln2	Talin-2	1.56
Vps45	Vacuolar protein sorting-associated protein 45	1.56
Prrt3	Proline-rich transmembrane protein 3	1.56
Mgl1	Monoglyceride lipase	1.57
Psmd2	26S proteasome non-ATPase regulatory subunit 2	1.57
Acadl	Long-chain specific acyl-CoA dehydrogenase, mitochondrial	1.59
Isyna1	Inositol-3-phosphate synthase 1	1.60
Ppp3r1	Calcineurin subunit B type 1	1.60
Prpsap2	Phosphoribosyl pyrophosphate synthase-associated protein 2	1.60
Cdh2	Cadherin-2	1.61
Dstn	Destrin	1.61
Nap114	Nucleosome assembly protein 1-like 4	1.61
Dock3	Dedicator of cytokinesis protein 3	1.61
Akap5	A-kinase anchor protein 5	1.62
Actr3b	Actin-related protein 3B	1.62
Atp2b4	Plasma membrane calcium-transporting ATPase 4	1.63
Arf6	ADP-ribosylation factor 6	1.64

Protein	Annotation	Fold-change
Syt7	Synaptotagmin-7	1.66
Grin1	Glutamate receptor ionotropic, NMDA 1	1.66
Pafah1b2	Platelet-activating factor acetylhydrolase IB subunit beta	1.66
Kctd16	BTB/POZ domain-containing protein KCTD16	1.68
Mpp2	MAGUK p55 subfamily member 2	1.69
Gmfb	Glia maturation factor beta	1.71
Gria2	Glutamate receptor 2	1.73
Ahcy12	Putative adenosylhomocysteinase 3	1.75
Acyp2	Acylphosphatase-2	1.75
Slc17a7	Vesicular glutamate transporter 1	1.76
Adss	Adenylosuccinate synthetase isozyme 2	1.76
Agap2	Arf-GAP with GTPase, ANK repeat and PH domain-containing protein 2	1.76
Slc27a1	Long-chain fatty acid transport protein 1	1.77
Mpp6	Membrane protein, palmitoylated 6 (MAGUK p55 subfamily member 6)	1.79
Srgap3	SLIT-ROBO Rho GTPase-activating protein 3	1.80
Pde1a	Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase 1A	1.83
Pde10a	cAMP and cAMP-inhibited cGMP 3',5'-cyclic phosphodiesterase 10A	1.85
Shank2	SH3 and multiple ankyrin repeat domains protein 2	1.86
Nptxr	Neuronal pentraxin receptor	1.91
Slc44a2	Choline transporter-like protein 2	1.95
Camk2b	Calcium/calmodulin-dependent protein kinase type II subunit beta	1.98
Jakmip3	Janus kinase and microtubule interacting protein 3	1.98
Phyhip	Phytanoyl-CoA hydroxylase-interacting protein	1.99
Ptprn2	Receptor-type tyrosine-protein phosphatase N2	2.00
Lphn3	Adhesion G protein-coupled receptor L3	2.01
Prep	Prolyl endopeptidase	2.03
Chgb	Secretogranin-1	2.05
Ncdn	Neurochondrin	2.11
Grin2b	Glutamate receptor ionotropic, NMDA 2B	2.14
Anks1b	Ankyrin repeat and sterile alpha motif domain-containing protein 1B	2.18
Nt5m	5'(3')-deoxyribonucleotidase, mitochondrial	2.22
Mpc1	Mitochondrial pyruvate carrier 1	2.22
Gna11	Guanine nucleotide-binding protein subunit alpha-11	2.28
Eif4h	Eukaryotic translation initiation factor 4H	2.28
Map2k4	Dual specificity mitogen-activated protein kinase kinase 4	2.98
Camk2a	Calcium/calmodulin-dependent protein kinase type II subunit alpha	3.90
Hagh	Hydroxyacylglutathione hydrolase, mitochondrial	3.96
Coro2b	Coronin-2B	4.80

Supplementary Table 2. List of uniquely altered proteins in the prefrontal cortex of MGO injected Thy1-aSyn. Mouse proteins nomenclature is used.

Protein	Annotation	Fold-change
Epn2	Epsin-2	0.12
Hbb-bs	Hemoglobin, beta adult s chain	0.22
Apoa1	Apolipoprotein A-I	0.37
Cull1	Cullin-1	0.42
Esy1	Extended synaptotagmin-1	0.45
Gspt1	Eukaryotic peptide chain release factor GTP-binding subunit ERF3A	0.48
Krt10	Keratin, type I cytoskeletal 10	0.50
Atxn10	Ataxin-10	0.52
Alb	Serum albumin	0.52
Jakmip3	Janus kinase and microtubule interacting protein 3	0.54
Cyb5r3	NADH-cytochrome b5 reductase 3	0.56
Gps1	COP9 signalosome complex subunit 1	0.58
Eif2s1	Eukaryotic translation initiation factor 2 subunit 1	0.62
Gng7	Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-7	0.63
Rbm5	RNA-binding protein 5	0.63
Tmem63b	CSC1-like protein 2	0.64
Trmt112	Multifunctional methyltransferase subunit TRM112-like protein	0.68
C1qbp	Complement component 1 Q subcomponent-binding protein, mitochondrial	0.69
Slc6a11	Sodium- and chloride-dependent GABA transporter 3	0.69
Ndufb5	NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial	0.69
Ssb	Lupus La protein homolog	0.69
Tsn	Translin	0.70
Aldh9a1	4-trimethylaminobutyraldehyde dehydrogenase	0.71
Cdh2	Cadherin-2	0.71
Gpx1	Glutathione peroxidase 1	0.72
Vsnl1	Visinin-like protein 1	0.73
Plp1	Myelin proteolipid protein	0.73
Psap	Prosaposin	0.74
Slc3a2	4F2 cell-surface antigen heavy chain	0.74
Gja1	Gap junction alpha-1 protein	0.74
Hp1bp3	Heterochromatin protein 1-binding protein 3	0.75
Ppp3r1	Calcineurin subunit B type 1	0.75
Rps10	40S ribosomal protein S10	0.76
Itgb1	Integrin beta-1	0.76
Ola1	Obg-like ATPase 1	0.76
Phgdh	D-3-phosphoglycerate dehydrogenase	0.79
Apoo	Apolipoprotein O	0.79
Atf1	Atlastin-1	0.80
Calb1	Calbindin	0.80

Protein	Annotation	Fold-change
Ndufa4	Cytochrome c oxidase subunit NDUFA4	0.81
Cd47	Leukocyte surface antigen CD47	0.81
Lancl2	LanC-like protein 2	0.81
Sdhb	Succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial	0.82
Rtn1	Reticulon-1	0.83
Sh3bgr1	SH3-binding domain glutamic acid-rich protein like	0.83
Lmna	Prelamin-A/C	0.83
Mpp2	MAGUK p55 subfamily member 2	0.83
Ahcy	S-adenosylhomocysteine hydrolase	0.83
Cadm3	Cell adhesion molecule 3	0.83
Qdpr	Dihydropteridine reductase	0.84
Aldoc	Aldolase C, fructose-bisphosphate	0.85
Grb2	Growth factor receptor-bound protein 2	0.86
Uqcrc1	Cytochrome b-c1 complex subunit 1, mitochondrial	1.10
Nars	Asparagine--tRNA ligase, cytoplasmic	1.12
Rac1	Ras-related C3 botulinum toxin substrate 1	1.12
Ndufb7	NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7	1.14
Pgam1	Phosphoglycerate mutase 1	1.14
Nfu1	NFU1 iron-sulfur cluster scaffold homolog, mitochondrial	1.14
Pafah1b2	Platelet-activating factor acetylhydrolase IB subunit beta	1.15
Camk2b	Calcium/calmodulin-dependent protein kinase type II subunit beta	1.15
Myl12b	Myosin regulatory light chain 12B	1.15
Dnm1	Dynamin-1	1.15
Ntm	Neurotrimin	1.16
Dnajc11	DnaJ homolog subfamily C member 11	1.16
Ppp2ca	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform	1.18
Srsf1	Serine/arginine-rich splicing factor 1	1.19
Ppp6c	Serine/threonine-protein phosphatase 6 catalytic subunit	1.20
Actr3b	Actin-related protein 3B	1.20
Actr2	Actin-related protein 2	1.20
Ak5	Adenylate kinase isoenzyme 5	1.21
Amph	Amphiphysin	1.21
Hspa11	Heat shock 70 kDa protein 1-like	1.22
Hsp90ab1	Heat shock protein HSP 90-beta	1.22
Gpd1	Glycerol-3-phosphate dehydrogenase 1 (soluble)	1.22
Cfl1	Cofilin-1	1.22
Trim2	Tripartite motif-containing protein 2	1.23
Nt5dc3	5'-nucleotidase domain containing 3	1.23
Caprin1	Caprin-1	1.24
Ran	GTP-binding nuclear protein Ran	1.24

Protein	Annotation	Fold-change
Agap2	Arf-GAP with GTPase, ANK repeat and PH domain-containing protein 2	1.24
Prrt3	Proline-rich transmembrane protein 3	1.24
Shank2	SH3 and multiple ankyrin repeat domains protein 2	1.24
Arpc1a	Actin-related protein 2/3 complex subunit 1A	1.25
Hnrnpm	Heterogeneous nuclear ribonucleoprotein M	1.27
Efhd2	EF-hand domain-containing protein D2	1.27
Myo18a	Unconventional myosin-XVIIIa	1.28
Pip4k2c	Phosphatidylinositol 5-phosphate 4-kinase type-2 gamma	1.28
Lanc11	LanC-like protein 1	1.29
Paip1	Polyadenylate-binding protein-interacting protein 1	1.29
Arpc3	Actin-related protein 2/3 complex subunit 3	1.30
Scrn1	Secernin-1	1.33
Hmgcs1	Hydroxymethylglutaryl-CoA synthase, cytoplasmic	1.34
Gnl1	Guanine nucleotide-binding protein-like 1	1.35
Ndufs8	NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial	1.43
Hars	Histidine--tRNA ligase, cytoplasmic	1.48
Rpl10a	60S ribosomal protein L10a	1.50
Nme2	Nucleoside diphosphate kinase B	1.51
Lars	Leucine--tRNA ligase, cytoplasmic	1.52
Rps29	Ribosomal protein S29	1.54
Apmap	Adipocyte plasma membrane-associated protein	1.66
Acadv1	Very long-chain specific acyl-CoA dehydrogenase, mitochondrial	1.74
Dyx1c1	Dynein assembly factor 4, axonemal	1.83
Tpm4	Tropomyosin alpha-4 chain	2.00

Supplementary Table 3. List of proteins that are commonly uniquely altered in both midbrain and prefrontal cortex of MGO injected Thy1-aSyn. Mouse proteins nomenclature is used.

Protein	Annotation	Fold-change	
		Midbrain	Cortex
Camk2b	Calcium/calmodulin-dependent protein kinase type II subunit beta OS	1,98	1,15
C1qbp	Complement component 1 Q subcomponent-binding protein, mitochondrial OS	1,48	0,69
Agap2	Arf-GAP with GTPase, ANK repeat and PH domain-containing protein 2 OS	1,76	1,24
Pafah1b2	Platelet-activating factor acetylhydrolase IB subunit beta OS	1,66	1,15
Actr3b	Actin-related protein 3B OS	1,62	1,21
Cdh2	Cadherin-2 OS	1,61	0,71
Prrt3	Proline-rich transmembrane protein 3 OS	1,56	1,25
Rtn1	Reticulon-1 OS	1,35	0,83
Actr2	Actin-related protein 2 OS	1,47	1,21
Ppp3r1	Calcineurin subunit B type 1 OS	1,60	0,76
Myl12b	Myosin regulatory light chain 12B OS	1,26	1,16
Apmap	Adipocyte plasma membrane-associated protein OS	0,61	1,83
Shank2	SH3 and multiple ankyrin repeat domains protein 2 OS	1,86	1,27
Hnrnpm	Heterogeneous nuclear ribonucleoprotein M OS	1,35	1,28
Ahcy	Adenosylhomocysteinase OS	1,28	0,83
Srsf1	Serine/arginine-rich splicing factor 1 OS	1,30	1,20
Mpp2	MAGUK p55 subfamily member 2 OS	1,69	0,83
Jakmip3	Janus kinase and microtubule-interacting protein 3 OS	1,98	0,54

Supplementary Table 4. List of proteins that are altered in the midbrain of MGO-injected WT mice. Mouse proteins nomenclature is used.

Protein	Fold-change	Protein	Fold-change	Protein	Fold-change	Protein	Fold-change
Gltp	0.19	Ptpn9	1.52	Gad2	1.24	Calm3	1.23
Uqcrh	2.54	Iars2	1.32	Hba	0.33	Atp5pb	0.35
Cnn3	1.67	Twfl	0.79	Plcl1	1.59	Rpl7	1.19
Ndufs2	0.60	Snca	1.60	Pafah1b1	0.81	Rab3b	0.22
Ank3	0.51	Ndufa1	1.43	Rpl10	1.44	Cfl1	1.37
Cltc	1.47	Rock2	1.40	Slc6a1	1.51	Rpl24	1.15
Ppp2ca	1.95	Cacybp	0.75	Pgam1	1.22	Cdc42	1.55
Grb2	0.53	Ndufa4	0.69	Ahsa1	1.62	Pgk1	1.17
Septin2	1.49	Nebl	2.05	Tstd3	0.55	Yars	0.77
Atic	0.40	Sri	0.69	Prxl2b	0.72	Tcea1	0.10
Psm3	1.72	Prpsap1	1.41	Vcan	1.30	Eif4g3	1.64
Cops8	2.03	Ptbp2	2.16	Ndufa6	1.29	Gyg1	0.77
Fabp5	0.51	Copa	0.73	Pcca	0.49	Pramel7	0.40
Eif5	1.39	Dynlrb1	1.34	Mtnd1	0.57	St13	0.40
Hars	0.37	Ephx3	1.66	Dad1	0.68	Sipa1	0.62
Kif5b	2.20	Rplp0	1.48	Abracl	1.26	Fubp1	1.25
Arhgap35	5.35	Nbea	1.60	Klc1	1.60	Suclg1	1.21
Got2	0.67	Prdx3	1.39	Mtpn	1.34	Rdx	1.23
Tuba1a	1.87	Copg2	1.33	Nod2	0.78	Nude	1.44
Eef1g	1.45	Clpp	0.64	Prdx6	0.75	Vta1	1.22
Zfyve26	1.60	Syt12	1.87	Rpl22	0.64	Cisd1	0.47
Txndc17	1.50	Gja1	0.62	Pspc1	1.65	Eef1a1	1.20
Nol3	1.58	Ppa2	0.75	Scrn3	1.37	Fntb	5.34
Gng7	0.62	Phgdh	1.34	Glr5	1.28	Akr7a2	2.27
Agt	1.86	Psm11	1.37	Acaa2	1.34	Nras	1.14
Cltb	1.87	Slc25a51	0.54	Myadm	1.94	Ndufb9	0.55
Hspa11	1.80	Dpp6	1.38	Kif15	0.22	Shank3	1.57
Pcyox1	2.10	Ndufs4	0.37	Psm5	0.83	Rpl38	1.37
Ehd4	1.57	Auh	1.37	Psm3	1.37	Acbd6	5.25
Cox5a	1.28	Tppp	1.33	Wbp2	0.64	Aco2	0.75
Aldh2	1.49	Ndufb7	1.29	Psmc6	1.24	Pgm1	0.74
Rab35	1.60	Psap	0.49	Ndufa13	1.29	Sarnp	1.17
Hacd3	0.72	Vamp2	1.50	Ywhag	0.51	Eif3b	0.44
Penk	0.33	Krt10	0.50	Tardbp	1.34	Cyc1	1.14
Rars	1.59	Timm9	0.66	Cpm	2.68	Pded5	1.18
Septin9	1.93	Arl3	1.38	Pcp4	1.50	Chchd6	0.86
Retreg2	2.35	Fh	1.21	Ppp2r1a	1.22	Glr3	1.38
Hadhb	0.47	Cul3	0.53	Idh2	0.70	Ddc	1.44

Protein	Fold-change	Protein	Fold-change	Protein	Fold-change	Protein	Fold-change
Adck1	1.47	Abcf2	2.09	Taldo1	1.31	Tagln	1.98
Pfn1	1.48	Capn2	1.25	Hspa9	1.23	Tspan2	0.49
Scrn1	1.60	Tpm4	0.33	Pde2a	1.44	Atp1a3	0.87
Ap3d1	1.86	Arpe51	1.46	Uqcr11	0.58	Mapk10	0.83
Hadh	1.94	Set	1.28	Nudt2	1.34	Carhsp1	1.25
Grm2	2.59	Aak1	1.27	Pitpna	1.56	Dlg4	0.75
Ociad2	1.69	Lancel1	0.53	Cndp2	0.56	Hibadh	1.20
Arhgef19	1.47	Snap47	0.52	Rpl23a	0.50	Ywhaq	0.48
Mapre2	1.37	Gars	1.39	Snrpg	1.97	Idh3g	0.86
Gdi2	0.59	Nckipsd	1.22	Nedd8	1.52	Mdh1	0.53
Ppid	1.43	Hprt1	0.75	Cbr3	0.58	Rexo2	1.21
Kena2	0.65	Atp5f1e	0.41	Mtch2	0.29	Ckmt1	0.82
Rida	0.55	Atpaf1	0.55	Cacna2d2	1.30	Unc13a	1.38
Atp2a2	1.29	Vps35	0.81	Trmt112	1.31	Rab14	1.19
Bphl	3.67	Rpl9	1.58	Ly6h	0.61	Prxl2a	1.19
Sparcl1	2.18	Esyt1	1.76	Bcas1	0.67	Tagln3	1.16
Samm50	0.40	Stxbp1	1.20	Cycs	0.84	Rpl26	0.68
Kif5c	1.79	Gnaz	0.70	Ttc7b	1.68	Adk	0.56
Prkar1a	1.42	Scamp5	0.33	Wasf1	1.54	Ctnnb1	1.19
Ldha	0.68	Gesh	1.41	Cct2	1.33	Atp6v1g1	0.61
Rab3a	1.63	Ermn	1.63	Pea15	0.69	Capza2	1.25
Rab5b	1.39	Ddx6	1.23	Aplp2	0.36	Atad3	0.54
Mtx1	2.18	Nme1	1.61	Ptprs	1.60	Dlgap1	1.90
Ctsd	1.35	Hspe1	1.41	Dnajc11	1.31	Snrpd3	1.20
Cplx1	1.48	Pfkip	1.22	Ahcy11	1.42	Gpd2	1.21
Coasy	1.93	Xpo1	1.45	Dars	1.24	Alyref	0.36
Atp6ap1	0.41	Ppp6c	1.34	Otud6b	0.68	Gdpd1	0.51
Lamp1	0.37	Tspan7	0.33	Mpi	1.17	Beat1	1.26
Ndufb5	0.74	Strap	1.68	Tppp3	1.37	Mcat	2.23
Cnp	0.69	Lasp1	1.30	Lypla2	1.58	Psmc1	1.34
Rpl27a	0.57	Nutf2	1.36	Slc8a2	1.85	Vapb	1.32
Vamp1	0.42	Slc25a4	0.82	Mapre1	1.28	Aldh1a1	1.29
Ntrk2	1.61	Tufm	1.34	Hdgfl3	1.87	Sv2a	1.21
Ppp1cc	1.57	Ndufs8	1.56	Echs1	0.80	Rpl15	0.62
Pitpnc1	1.56	Rps12	0.70	Syng3	0.63	Pip4k2c	1.42
Ndufa12	1.55	Ndufb1	0.35	Tpd5212	0.86	Arhgap44	1.65
Adam23	0.50	Ivd	0.83	Ldhb	0.78	Praf2	0.73
Gng2	0.70	Rpl30	0.58	Txnrd1	1.21	Cct7	1.20
Ddt	1.56	Rpl23	1.32	Ndufab1	0.63	Acs16	1.14
Rpl35	1.71	Cops5	0.58	Rps3a	1.23	Krt75	2.18

Protein	Fold-change	Protein	Fold-change	Protein	Fold-change	Protein	Fold-change
Ctnnd2	1.37	Rps10	0.78	Atp6v0d1	0.71	Ppm1a	0.82
Mpc2	0.65	Ogdh	0.76	Cadm3	0.87	Ptpmt1	1.27
Ap1m1	1.56	Aca1a	3.05	Ptpa	0.74	Pdcd6	1.31
Slc27a4	1.87	Hnrnpc	0.65	Gstp1	1.19	Zc3h15	5.52
Fxyd6	1.45	Usp5	1.17	Ap1s2	0.59	Anxa7	1.25
Rpl27	0.61	Cnrip1	1.30	Sncb	1.25	Vps26a	0.66
Pclo	2.01	Atp5pf	0.59	Pdcd11	2.81	Tcp1	1.23
Me2	1.76	Gucy1b1	1.58	Ykt6	1.38	Aldh9a1	1.31
Ndufs5	1.38	Coro1c	1.33	Oxr1	1.36	Gabra1	1.46
H1f0	1.46	Cab39	1.54	Bag6	0.46	H2afv	0.59
Appl1	2.15	Ywhah	0.62	Slc25a12	1.19	Syt1	1.28
Gmps	1.22	Itgb1	0.70	Ndufv2	1.22	Cherp	1.94
Rps28	1.52	Psbm5	0.56	Aldh1l1	1.28	Afg3l2	0.89
Atp6v1g2	1.42	Lnpk	0.42	Negr1	1.23	Hnrnpd	0.63
Tsn	0.73	Cirbp	2.06	Arpc3	1.24	Nae1	0.50
Rab10	1.38	Rack1	1.56	Krt85	1.44	Hsd17b4	1.17
Pls1	0.40	Atp6v1a	1.15	Gstm7	2.00	Napb	0.55
Rab7a	1.39	Lanc12	0.63	Diras2	1.40	Aldh6a1	0.87
Gphn	0.63	Rcn2	1.58	Acot7	0.66	Pdxk	0.75
Park7	1.28	Abcd3	1.32	Cul2	1.52	Maoa	0.87
Cplx2	1.46	Slc6a11	0.39	Asna1	1.39	Atp6v1f	0.42
Pdk3	0.80	Epg5	7.40	Ube2v1	0.38	Mapk8ip3	0.79
Chmp6	0.47	Atp5f1a	1.34	Ca2	0.83	Mmp25	2.11
Rplp1	1.33	Slc20a2	1.76	Wars	0.78	Sptb	1.33
Fbxo43	1.33	Glod4	0.78	Hnrnp1	1.37	Ppp3ca	1.26
L1cam	1.57	Eif5a	1.71	Tomm22	1.38	Plcb1	0.67
Uqcrfs1	1.46	Fscn1	1.27	Smyd5	1.34	Epm2aip1	1.30
Sdhb	1.21	Farsa	1.97	Smap1	1.22	Actr1a	1.23
Cops6	1.46	Vdac2	0.84	Etfa	1.15	Cox5b	0.20
Tmem74	0.42	Me1	1.28	Psm4	1.29	Huwe1	1.43
Rab1A	1.43	Surf4	0.73	Vps4a	1.35	Ube2m	1.32
Fmn1	1.89	Gpd1	1.38	Sult4a1	0.62	Tfap2e	1.41
Rps15a	0.63	Dctn2	1.37	Prdx1	0.80	Cox4i1	0.76
Aspa	0.67	Cpne5	1.47	Slc25a18	0.45		
Ap1s1	1.69	Tbcc	1.37	Twf2	1.45		
Dnajb2	1.70	Actn1	1.26	Pin1	1.23		
Sirpa	1.39	Dpysl4	1.18	Gdap1	0.76		

Supplementary Table 5. List of proteins that are altered in the prefrontal cortex of MGO-injected WT mice. Mouse proteins nomenclature is used.

Protein	Fold-change	Protein	Fold-change	Protein	Fold-change	Protein	Fold-change
Vim	1.53	Ranbp1	1.27	Psd3	1.23	Mcrs1	1.82
Ube2n	0.72	Acot7	0.61	Anxa5	1.40	Nae1	0.82
Hadh	1.75	Camkv	0.80	Napg	1.15	Slc44a1	1.61
Gfap	2.01	Svip	2.99	Efr3b	0.54	Akap7	2.62
Psmb7	0.66	Glrx3	1.28	Myo5a	0.86	Prps1	3.23
Slc6a17	1.59	Hnrnpu	1.26	Atp2b2	0.86	Eno2	0.84
Nceh1	0.73	Vgf	0.67	Plxna4	0.74	Ehd3	1.17
Dip2a	0.56	Fntb	9.47	Hadhb	1.82	Agap3	1.23
Rdx	1.21	Acot13	1.26	Cacna1e	0.55	Prkcb	0.81
Git1	0.76	Hnrnpc	1.32	Necap1	0.75	Aars	0.71
Vcp	0.84	Esd	0.77	Fdps	0.76	Rcc2	0.56
Ppp1cb	0.64	Anxa7	1.24	Sdhc	1.20	Atp6v0a1	1.13
Snrpg	1.44	Kcnab2	0.66	Copg2	0.81	Fah	0.22
Hebp1	0.75	Ckb	1.29	Epha4	0.83	Acbd6	1.30
Gucy1b1	1.72	Grin2b	0.77	Atp1a3	1.21	Rtcb	1.17
Purb	3.97	Gstm5	1.21	Atp5pf	1.24	Wars	0.67
Hspa4	0.84	Etfb	1.24	Tspan7	0.52	Plpbb	1.21
Septin7	0.78	Arf3	0.42	Dpp10	0.80	Dnm1l	0.71
Scamp1	2.06	Cul3	0.57	Lap3	1.34	Pde1b	0.68
Uqcrh	1.35	Gng2	0.75	Ywhah	0.71	Ube2k	0.77
Dnajb2	0.72	Prdx2	1.22	Agk	1.15	Add2	0.87
Ap1g1	2.13	Grin1	0.67	Pitpna	1.64	Slc17a7	0.81
Fam49b	0.84	Abi2	0.52	Mrps22	0.68	Tollip	1.10
Fabp3	1.38	Gmps	1.30	Ethe1	1.65	Rap1b	0.77
Oxct1	0.79	Canx	1.22	Prune1	0.71	Got2	0.90
Atp6v1f	0.72	Akr1b1	1.19	Ndufs4	0.78	Csnk2a1	0.82
Samm50	0.44	Syt1	1.20	Nptn	1.26	Ddb1	0.75
Atp6v0d1	0.77	Dnaja1	0.51	Pgm3	0.28	Wdr37	0.76
Cbr3	1.79	Cpne5	0.80	Vbp1	0.76	Atp5pd	1.11
Uchl1	1.35	Dynll1	1.19	Oxr1	1.46	Vdac3	0.85
Cycs	1.28	Chgb	0.40	Rack1	1.28	Rab5c	0.61
Selenbp2	1.53	Rimbp2	0.58	Rps8	0.90	Arhgap32	0.73
Rps5	4.58	Pls3	1.33	Basp1	1.21	Ywhag	0.83
Hibch	1.30	Lsamp	0.85	Bag6	0.55	Prpsap2	1.79
Septin6	0.80	Atp6ap1	0.74	Chchd3	0.88	Acp1	0.65
Rps28	1.33	Krt77	1.97	Atp5mf	1.11	Tomm22	0.79
Acyp2	2.28	Rpl28	1.19	Sacm11	1.22	Atad3	0.66
Sfxn3	1.22	Acadl	0.74	Ist1	1.46	Fech	0.71

Protein	Fold-change	Protein	Fold-change	Protein	Fold-change	Protein	Fold-change
Mthfd1	1.53	Eif3e	0.69	Ndufab1	0.75	Cplx1	1.28
Psmd12	0.85	Lypla2	1.50	Gk	2.07	Dcaf15	0.50
Grhpr	1.26	Septin11	1.56	Krt75	3.55	Vps51	0.45
Prep	0.58	Cnn3	1.42	Sh3bgrl3	0.67	Hbb-b2	0.34
Ca2	0.64	Atp1b1	1.19	Akap12	1.93	Lypla1	1.52
Tubb4a	0.88	Cds2	1.25	Cntnap2	0.83	Pak3	0.64
Cdc42	1.75	Kcnc3	0.69	Ppia	0.81	Etfa	1.16
Pacs1	0.69	Adcy2	0.62	Hspa5	1.14	Calm3	1.29
Ptpa	0.75	Ndufa12	1.21	Aco1	0.77	Tuba4a	0.81
Cct3	1.29	Decr1	1.17	Tceal5	2.80	Ndufa8	1.19
Pi4ka	0.71	Cs	1.16	Aldh2	1.18	Slc1a3	1.22
Atox1	1.28	Scepdh	0.86	Slc27a4	1.90		
Mras	1.49	Cyfp2	0.69	Wwc1	0.69		
Dlgap1	3.48	Clic4	1.43	App	0.81		

Supplementary Table 6. List of proteins that are commonly altered by MGO (MGO-WT vs Veh-WT) and aSyn (Veh-Thy1-aSyn vs Veh-WT) in the midbrain. Mouse proteins nomenclature is used.

Protein	Fold-change MGO vs Veh	Fold-change Thy1 vs WT	Protein	Fold-change MGO vs Veh	Fold-change Thy1 vs WT
Gltp	0.19	0.32	Rps12	0.70	0.79
Uqcrh	2.54	2.30	Cab39	1.54	1.28
Ndufs2	0.60	0.83	Itgb1	0.70	0.72
Ank3	0.51	0.52	Psmb5	0.56	0.86
Ppp2ca	1.95	1.31	Rack1	1.56	1.36
Grb2	0.53	0.56	Glod4	0.78	0.86
Septin2	1.49	1.12	Surf4	0.73	0.69
Cops8	2.03	1.17	Actn1	1.26	1.52
Eef1g	1.45	1.40	Ahsa1	1.62	1.31
Hacd3	0.72	0.82	Tstd3	0.55	0.55
Septin9	1.93	1.55	Pcca	0.49	0.48
Ap3d1	1.86	1.28	Mtpn	1.34	1.25
Gdi2	0.59	0.83	Myadm	1.94	1.67
Bphl	3.67	5.21	Kif15	0.22	0.07
Sparcl1	2.18	1.62	Wbp2	0.64	0.56
Kif5c	1.79	1.38	Taldo1	1.31	1.45
Atp6v1g2	1.42	1.31	Mtch2	0.29	0.31
Pls1	0.40	0.36	Cacna2d2	1.30	1.28
Chmp6	0.47	0.54	Ly6h	0.61	0.66
Uqcrfs1	1.46	1.35	Pea15	0.69	0.55
Sdhb	1.21	1.23	Bag6	0.46	0.44
Tmem74	0.42	0.33	Arpc3	1.24	1.34
Snca	1.60	7.71	Krt85	1.44	2.06
Ndufa4	0.69	0.74	Smyd5	1.34	1.46
Rplp0	1.48	1.63	Rpl7	1.19	1.23
Prdx3	1.39	1.23	Rpl24	1.15	1.18
Clpp	0.64	0.85	Fntb	5.34	2.76
Syt12	1.87	1.91	Tagln	1.98	1.60
Timm9	0.66	0.82	Atp1a3	0.87	0.80
Fh	1.21	1.11	Mapk10	0.83	0.82
Capn2	1.25	1.20	Alyref	0.36	0.25
Snap47	0.52	0.39	Afg3l2	0.89	0.84
Atp5fle	0.41	0.55	Napb	0.55	0.82
Atpaf1	0.55	0.56	Aldh6a1	0.87	0.85
Vps35	0.81	0.81	Pdxk	0.75	0.77
Slc25a4	0.82	0.87	Plcb1	0.67	0.54

Supplementary Table 7. List of proteins that are glycosylated in the midbrain of MGO-injected Thy1-aSyn mice. Mouse proteins nomenclature is used.

Protein	Protein	Protein	Protein	Protein	Protein	Protein	Protein
Aadat	C2orf42	Dnajc13	Hadh	Mbp	Pbrm1	Rpl24	Tigd5
Abca2	C6orf132	Dnajc25	Hap1	Mcm6	Pcca	Rpl26l1	Tjp1
Abcb10	Caena1i	Dnajc9	Hck	Mdm1	Pesk6	Rpl27	Tlx3
Abhd16a	Caena1s	Dnm11	Hells	Mdn1	Pde1b	Rpl7	Tmem201
Acan	Cadm2	Dock5	Herc4	Mecp2	Pde4dip	Rpl7a	Tmem216
Acod1	Cadm4	Dpysl3	Hgs	Med24	Pdia3	Rpl8	Tmprss6
Acs11	Cadps2	Drp2	Hist1h4a	Mff	Pdzd3	Rps24	Tnfrsf10a
Acs16	Calb2	Dsp	Hmcn2	Mfhas1	Pfkfb1	Rps6	Tnn
Actn3	Camk2a	Dst	Hnrnpk	Mfsd6l	Pfkip	Rrbp1	Tnxb
Adam22	Camk2b	Dtna	Hsp90aa1	Mib2	Pgm1	Rrp8	Tom112
Adgr12	Camk2d	Dync1h1	Hsp90ab1	Mical2	Pgp	Rrs1	Top1mt
Agap3	Camk2g	Ebf1	Hspb1	Mmrn1	Phf24	Rtel1	Trappc10
Agrn	Cand1	Echdc2	Htra1	Mov10l1	Phf3	Rtn3	Trav38-2dv8
Ahcy11	Cask	Eddm13	Htra3	Mphosph10	Phlda1	Ruvbl2	Trim28
Ahcy12	Caskin1	Efhd2	Hydin	Mrpl47	Phlda3	Ryr3	Trim39
Aifm3	Cat	Eftud2	Idua	Mrps18b	Pick1	S1pr1	Tro
Akr1b10	Cavin3	Egr3	Igsf3	Mrps26	Pik3ca	Sash1	Trrap
Aldh1b1	Ccdc102a	Eif3a	Immt	Ms4a5	Pik3r1	Sash3	Tsks
Aldh2	Ccdc120	Eif4h	Ina	Mtmr9	Pikfyve	Scaf11	Ttc39b
Aldh6a1	Ccdc60	Eloa3	Inpp11	Myh9	Pitpna	Scmh1	Ttf2
Aldoa	Ccdc66	Elovl6	Ints6l	Myo18a	Plagl2	Scn2a	Ttn
Aldoc	Ccdc77	Elp1	Ipo5	Myo3a	Plcb1	Sdk1	Tubb
Alg6	Ccdc88b	Eno1	Ipp	Myo5a	Plec	Sdr42e2	Tubb2a
Alg8	Ccdc91	Epha7	Iqcd	Myo5b	Plekhg3	Sec14l1	Tubb2b
Alms1	Cd2ap	Erbb3	Iqcm	Myo9b	Plxnb1	Sema4c	Tubb4a
Amer2	Cdc123	Ercc6l	Iqsec1	Myom2	Pomgnt1	Serbp1	Tubb4b
Ampd2	Cdc14a	Ercc6l2	Iqsec2	Mysm1	Ppfia1	Setbp1	Tulp2
Ank3	Cdc7	Erich3	Iscu	Nadk2	Ppfia4	Sgip1	Tyw3
Ankrd17	Cdh5	Ervk-19	Isg20	Nbea	Ppp1cb	Sh3gl1	Ube2v2
Ankrd63	Cdhr1	Esyt2	Jakmip3	Nck2	Ppp1r12b	Sh3gl2	Ube3b
Anks1b	Cdk15	Etfb	Jmy	Ncor2	Ppp1r12c	Shank3	Ube3d
Aoc1	Cenpf	Etfhdh	Kat2b	Ndrp4	Ppp1r9b	Shld3	Upf3b
Ap1b1	Cep120	Evpl	Kcnab2	Ndufa2	Ppp2r1a	Shprh	Uqerc1
Ap2b1	Cep162	F8	Kcnh2	Ndufs1	Ppp2r5d	Ska2	Ushbp1
App	Cep250	Fads2	Kcnh3	Ndufs2	Ppp2r5e	Skp1	Uso1
Aqr	Cep290	Fads6	Kcnq5	Ndufs5	Ppp3ca	Slc12a4	Usp1712
Arf6	Cfap54	Fam135a	Kctd19	Nebi	Ppp3cb	Slc12a5	Usp24
Arfrp1	Cfap57	Fam173b	Khsrp	Nefh	Ppp4r3a	Slc16a8	Usp35

Protein	Protein	Protein	Protein	Protein	Protein	Protein	Protein
Arhgap21	Chd8	Fam53b	Kiaa0100	Nefl	Prag1	Slc22a2	Usp43
Arhgap23	Chtf8	Fam71e1	Kiaa1549l	Nefm	Prdm5	Slc24a4	Utp20
Arhgap28	Ckmt1a	Fam83e	Kiaa1551	Nf1	Prdx3	Slc25a5	Uts2r
Arid4b	Clip2	Farsb	Kif1a	Nf2	Prdx5	Slc2a4	Vars
Arid5b	Cltc	Fat1	Kif21a	Nfasc	Prep	Slc34a1	Vbp1
Arl6ip1	Cmas	Fat2	Kif21b	Nfatc2ip	Prim2	Slc4a3	Vcp
Arl6ip5	Cntrl	Fbxo39	Kif26a	Nin	Prkar2b	Slc7a14	Virma
Arrdc3	Coch	Fer1l6	Kif5c	Nkx6-3	Prkdc	Smardc2	Wasf1
Asic4	Cog1	Fezf2	Kifap3	Nlrp13	Prpf3	Snap91	Wdr6
Aspm	Col16a1	Fga	Kirrel1	Nolc1	Psap	Snph	Wdsub1
Atf6	Col24a1	Fhod3	Klc3	Npm1	Psm3	Snx29	Wnk4
Atg2b	Col6a2	Fkbp8	Klhl17	Nr2c2	Psmc2	Soat1	Wnt1
Atp1a3	Col9a1	Fmn1	Klhl2	Nrac	Ptpn11	Son	Wnt10a
Atp1b1	Colgalt1	Fn1	Krr1	Nrg2	Pum3	Spata20	Wwc3
Atp2a2	Coq8a	Fnbp1	Krt80	Nsd2	Qki	Sphk1	Yipf1
Atp2b3	Cplane1	Fscn1	Lama2	Nsd3	Rab12	Spib	Zbtb11
Atp5f1a	Crocc2	Fsip1	Lama5	Nsun7	Rab34	Spink8	Zbtb16
Atp5f1b	Cs	Fsip2	Lca5	Nucks1	Ralgapa2	Sptan1	Zbtb21
Atp5f1c	Cspg5	Fxyd1	Ldlrap1	Nuded3	Rasa2	Sptbn1	Zc3h7a
Atp6v0a2	Ctnnb1	Gal3st2	Lmtk2	Obscn	Rb1cc1	Sptbn5	Zdhhc8
Atp6v1c1	Ctsf	Gart	Lonrf3	Ocl1	Rbm12b	Spz1	Zfx4
Atp6v1g2	Cyp27a1	Gas2l3	Lrig3	Ogdh	Rbm19	Srrm2	Zmym2
Atp8a1	Ddhd2	Gatd3a	Lrp1	Ogfr	Rbm3	Srrm3	Znf195
Atp9a	Ddrgk1	Ghrh	Lrp2	Omg	Rdh14	Srsf11	Znf407
Avpi1	Ddx3x	Gli3	Lrrc74a	Ophn1	Reep1	Srsf3	Znf491
Best3	Ddx4	Glud1	Lrrc8a	Or10j1	Rep15	Srsf7	Znf516
Bet1	Def6	Gna14	Lrrd1	Or4c3	Rev3l	Ssna1	Znf629
Bfsp1	Dennd4c	Gng3	Lym4	Or52h1	Rgs9	St13p5	Znf672
Brap	Depdc5	Gnptab	Lzts3	Osbpl5	Rhbdf1	Stk11ip	Znf681
Brf2	Dgat217p	Golga3	Macf1	Otol1	Rif1	Suclg1	Znf707
Brinp2	Dgkh	Gphn	Maged4	Otud7a	Riok1	Suclg2	Znf723
Brms1	Dgkk	Gpi	Maoa	Ovos1	Riox1	Syne1	Znf724
Brms11	Dhx16	Grasp	Map1a	Oxct1	Rmnd1	Syt1	Znf726
Bsn	Dhx9	Grhl3	Map2	Oxsm	Rnf44	Taf1l	Znf764
Btbd11	Dip2c	Gripap1	Map9	Oxsr1	Rock2	Tas2r7	Znf804b
C10orf113	Dlat	Grk3	Mapre2	Pabpc4	Rph3a	Tcaf1	Znf806
C11orf88	Dnah10	Gucy2d	Mast1	Pacs1	Rpia	Tcigr1	Znf816
C12orf66	Dnah8	H1fx	Mast4	Pacsin3	Rpl14	Tenm4	
C12orf74	Dnah9	H2afy	Mat2a	Pam	Rpl15	Tfap2b	
C22orf42	Dnaja2	Habp4	Matn4	Parp4	Rpl19	Tiam2	

Supplementary Table 8. List of proteins that are exclusively glycosylated in the midbrain of MGO-injected Thy1-aSyn mice. Mouse proteins nomenclature is used.

Protein	Protein	Protein	Protein	Protein	Protein	Protein	Protein
Aadat	Cacna1s	Elovl6	Hells	Mfsd6l	Pfkfb1	S1pr1	Trim39
Abcb10	Cadm2	Ercc6l	Hgs	Mib2	Pgm1	Sash3	Tro
Abhd16a	Calb2	Ercc6l2	Hmcn2	Mical2	Pgp	Scmh1	Tsks
Acan	Cavin3	Erich3	Hspb1	Mmrn1	Phlda1	Sdk1	Ttc39b
Acod1	Ccdc66	Esyt2	Htra1	Mov10l1	Pik3ca	Sdr42e2	Tulp2
Acsl1	Ccdc77	Etfb	Htra3	Mphosph1 0	Pik3r1	Sema4c	Tyw3
Actn3	Ccdc91	Etfdh	Idua	Mrpl47	Pikfyve	Sh3gl1	Ube3d
Adam22	Cd2ap	Evpl	Igsf3	Mrps18b	Plagl2	Shank3	Upf3b
Adgrl2	Cdc123	F8	Immt	Ms4a5	Plekhg3	Shld3	Uqcrc1
Agrn	Cdc14a	Fam135a	Ipp	Mtmr9	Pomgnt1	Shprh	Usp17l2
Ahcy1l	Cdc7	Fam173b	Iqcd	Myo9b	Ppp1r12b	Ska2	Usp35
Aifm3	Cdh5	Fam71e1	Iqcm	Mysm1	Ppp1r12c	Slc12a4	Virma
Aldoc	Cdhr1	Fam83e	Iscu	Nadk2	Ppp2r1a	Slc16a8	Wdr6
Alg6	Cdkl5	Farsb	Isg20	Nbea	Prag1	Slc22a2	Wdsub1
Alg8	Cenpf	Fat1	Jakmip3	Nck2	Prdx3	Slc24a4	Wnk4
Amer2	Cep120	Fat2	Kat2b	Ncor2	Prim2	Slc34a1	Wnt1
Ankrd63	Cep162	Fbxo39	Kcnab2	Ndr4	Prkdc	Slc4a3	Wnt10a
Anks1b	Cfap54	Fer1l6	Kcnh3	Ndufa2	Prpf3	Slc7a14	Wwc3
Aoc1	Chd8	Fhod3	Kcnq5	Nefl	Psap	Smarcd2	Yipf1
Aqr	Chtf8	Fkbp8	Kctd19	Nf2	Psm3	Snap91	Zbtb11
Arf6	Cmas	Fmnl1	Khsrp	Nfatc2ip	Psmc2	Soat1	Zbtb16
Arfrp1	Cog1	Fnbp1	Kiaa0100	Nkx6-3	Ptpn11	Son	Zbtb21
Arhgap23	Col16a1	Fscn1	Kiaa1549l	Nlrp13	Pum3	Spata20	Zdhhc8
Arhgap28	Col24a1	Fxyd1	Kiaa1551	Nolc1	Qki	Sphk1	Zfhx4
Arid4b	Col6a2	Gal3st2	Kif1a	Nr2c2	Rasa2	Spib	Zmym2
Arid5b	Colgalt1	Gart	Kif5c	Nsd3	Rb1cc1	Spink8	Znf195
Arl6ip1	Coq8a	Gas2l3	Kirrel1	Nsun7	Rbm3	Spz1	Znf407
Arl6ip5	Ctnnb1	Gatd3a	Klc3	Nucks1	Rdh14	Srrm3	Znf491
Arrdc3	Ctsf	Ghrh	Klhl17	Nudcd3	Reep1	Srsf11	Znf516
Atf6	Cyp27a1	Gli3	Krr1	Ogdh	Rep15	Syt1	Znf629
Atg2b	Ddhd2	Glud1	Lama2	Ogfr	Rev3l	Taf1l	Znf672
Atp2a2	Ddx3x	Gna14	Lama5	Ophn1	Rgs9	Tas2r7	Znf681
Atp5f1c	Ddx4	Gnptab	Ldlrap1	Or4c3	Rif1	Tcaf1	Znf707
Atp6v0a2	Dgkk	Golga3	Lmtk2	Or52h1	Riok1	Tenm4	Znf723
Atp9a	Dip2c	Gphn	Lrig3	Osbp15	Rnf44	Tfap2b	Znf726
Avpi1	Dlat	Gpi	Lrrc74a	Otol1	Rph3a	Tigd5	Znf764
Best3	Dnaja2	Grasp	Lrrc8a	Otud7a	Rpl14	Tjp1	Znf804b
Bet1	Dnajc13	Grhl3	Lrrd1	Oxsr1	Rpl26l1	Tlx3	Znf806

Protein	Protein	Protein	Protein	Protein	Protein	Protein	Protein
Bfsp1	Dnajc9	Gripap1	Maoa	Pabpc4	Rpl27	Tmem201	Znf816
Brms1l	Dock5	Grk3	Map9	Pacsin3	Rpl7a	Tmem216	
Btbd11	Ebf1	Gucy2d	Matn4	Parp4	Rrbp1	Tmprss6	
C10orf113	Eddm13	H1fx	Mcm6	Pcca	Rrs1	Tnfrsf10a	
C11orf88	Eftud2	Hadh	Mdm1	Pde1b	Rtel1	Tnn	
C22orf42	Egr3	Hap1	Med24	Pde4dip	Rtn3	Top1mt	
Cacna1i	Eif4h	Hck	Mfhas1	Pdzd3	Ruvbl2	Trappc10	