

## Supplementary Table S1

Genes highlighted in yellow were a z-test criteria of  $p < 0.05$  (two-tailed) and a z-ratio criteria of  $\geq 11.51$ .

### List of upregulated genes by cocaine

Gene Name	Gene Symbol	GenBank	10 $\mu$ M Cocaine z ratio	100 $\mu$ M Cocaine z ratio
<b>Metabolism</b>				
tyrosinase-related protein 1	TYRP1	NM_000550	1.925	1.272
glycogenin 1	GYG	NM_004130	2.031	1.012
protein tyrosine phosphatase, non-receptor type 14	PTPN14	NM_005401	0.872	1.500
aldehyde dehydrogenase 1 family, member A1	ALDH1A1	NM_000689	1.402	1.535
NADH:ubiquinone oxidoreductase core subunit S1	NDUFS1	BC030833	1.328	1.610
FUS interacting protein (serine/arginine-rich) 1	FUSIP1	NM_054016	0.548	1.655
v-rel avian reticuloendotheliosis viral oncogene homolog B	RELB	NM_006509	1.357	1.655
flavin containing monooxygenase 4	FMO4	NM_002022	1.373	1.659
fructose-1,6-bisphosphatase 2	FBP2	NM_003837	1.190	1.773
stem-loop binding protein	SLBP	NM_006527	1.184	1.830
lipase, hepatic	LIPC	NM_000236	1.183	1.838
thioredoxin-like 1	TXNL	NM_004786	1.472	1.863
pyridoxal (pyridoxine, vitamin B6) kinase	PDXK	NM_003681	1.098	1.884
mannosyl (beta-1,4-)-glycoprotein beta-1,4-N-acetylglucosaminyltransferase	MGAT3	NM_002409	1.442	1.917
glucuronidase, beta pseudogene	SMA4	NM_006780	1.711	3.718
abhydrolase domain containing 11	ABHD11	NM_031295	1.561	1.625
adenosine kinase	ADK	NM_006721	1.585	1.519
acyloxyacyl hydrolase (neutrophil)	AOAH	NM_001637	1.622	1.884
ATP-binding cassette, sub-family B (MDR/TAP), member 4	ABCB4	NM_018849	1.681	2.065
SLC2A4 regulator	SLC2A4RG	NM_020062	1.703	1.524
thioredoxin	TXN	NM_003329	1.835	1.613
adenosylmethionine decarboxylase 1	AMD1	NM_001634	2.051	2.704
<b>Growth/trophic factors</b>				
Kruppel-like factor 10	KLF10	NM_005655	1.108	1.510
tumor necrosis factor (ligand) superfamily, member 12	TNFSF12	NM_003809	1.391	1.544
insulin-like growth factor binding protein 4	IGFBP4	NM_001552	1.491	1.672
insulin-like growth factor 2 (somatomedin A)	IGF2	NM_000612	1.126	1.675
oncostatin M	OSM	NM_020530	1.207	1.677
insulin-like growth factor binding protein 1	IGFBP1	NM_000596	1.131	1.691
colony stimulating factor 3 (granulocyte)	CSF3	NM_000759	1.373	2.140
interleukin 12 receptor, beta 2	IL12RB2	NM_001559	1.721	1.561
interleukin 12A	IL12A	NM_000882	1.775	1.857
<b>Apoptosis</b>				
tumor necrosis factor receptor superfamily, member 1B	TNFRSF1B	NM_001066	1.178	1.658
DNA fragmentation factor, 40kDa, beta polypeptide (caspase-activated DNase)	DFFB	NM_004402	1.370	1.742
myeloid cell leukemia sequence 1 (BCL2-related)	MCL1	NM_021960	2.614	1.638
<b>Cell cycle control</b>				
checkpoint kinase 1	CHEK1	NM_001274	1.584	1.227
cell division cycle 25C	CDC25C	NM_001790	0.948	1.555
cyclin A2	CCNA2	NM_001237	4.632	2.396
<b>Signal transduction</b>				
adenosine A2b receptor	ADORA2B	NM_000676	0.986	1.507
ribosomal protein S6 kinase, 90kDa, polypeptide 3	RPS6KA3	NM_004586	1.039	1.521
pyrimidinergic receptor P2Y, G-protein coupled, 6	P2RY6	NM_004154	1.045	1.554
kinase suppressor of ras 1	KSR1	U43586	1.255	1.594
mitogen-activated protein kinase kinase kinase kinase 5 (GCKR)	MAP4K5	NM_006575	1.116	1.609
inositol 1,4,5-triphosphate receptor, type 3	ITPR3	NM_002224	1.246	1.658
active BCR-related gene	ABR	NM_021962	1.358	1.909
mitogen-activated protein kinase kinase kinase 10	MAP3K10	NM_002446	1.439	1.926
corticotropin releasing hormone binding protein	CRHBP	NM_001882	1.065	1.985
mitogen-activated protein kinase kinase 4	MAP2K4	NM_003010	1.802	1.560
<b>Transcription, translation, and RNA processing</b>				
DEAD (Asp-Glu-Ala-Asp) box polypeptide 52	DDX52	AJ010840	1.266	1.515
methyl-CpG binding domain protein 1	MBD1	NM_015846	1.222	1.612
signal transducer and activator of transcription 3 (acute-phase response factor)	STAT3	NM_139276	1.058	1.617
SKI-like oncogene	SKIL	NM_005414	1.312	1.635
cAMP responsive element binding protein 1	CREB1	NM_134442	1.482	1.809
POU class 6 homeobox 1	POU6F1	NM_002702	1.607	1.725
MDM2 proto-oncogene, E3 ubiquitin protein ligase	MDM2	NM_002392	1.642	1.615
msh homeobox 1	MSX1	NM_002448	1.735	2.527
jun B proto-oncogene	JUNB	NM_002229	1.951	1.964

v-fos FBJ murine osteosarcoma viral oncogene homolog	FOS	NM_005252	2.216	2.175
<b>Protein processing</b>				
hsp70-interacting protein	HSPBP1	NM_012267	1.504	1.180
proteasome 26S subunit, non-ATPase 12	PSMD12	NM_002816	1.208	1.516
presenilin 1	PSEN1	NM_007318	0.865	1.594
calnexin	CANX	NM_001746	1.257	1.605
<b>Structural</b>				
midline 1	MID1	AF041210	1.449	1.623
neurofilament, medium polypeptide	NEFM	NM_005382	1.006	1.876
dynamamin 1	DNM1	NM_004408	1.757	1.920
nucleoporin 88kDa	NUP88	NM_002532	1.895	1.690
<b>Adhesion</b>				
integrin subunit beta 2	ITGB2	NM_000211	1.683	0.906
chemokine (C-X-C motif) receptor 3	CXCR3	NM_001504	2.882	1.725
zyxin	ZYX	NM_003461	0.870	1.516
inositol polyphosphate phosphatase like 1	INPPL1	NM_001567	1.024	1.522
catenin delta 2	CTNND2	NM_001332	1.609	1.593
neuronal cell adhesion molecule	NRCAM	NM_005010	1.710	1.999
<b>Development</b>				
delta-like 1 homolog (Drosophila)	DLK1	NM_003836	1.886	1.333
secreted protein, acidic, cysteine-rich (osteonectin)	SPARC	NM_003118	1.239	1.506
cold shock domain containing E1, RNA-binding	CSDE1	NM_007158	1.003	1.835
lumican	LUM	NM_002345	1.149	2.132
<b>Neurotransmission</b>				
dopamine receptor D2	DRD2	NM_000795	0.778	1.518
prodynorphin	PDYN	NM_024411	0.970	1.561
neuropeptide Y receptor Y1	NPY1R	NM_000909	1.451	1.737

### List of downregulated genes by cocaine

Gene Name	Gene Symbol	GenBank	10 $\mu$ M Cocaine z ratio	100 $\mu$ M Cocaine z ratio
<b>Metabolism</b>				
translocator protein	TSPO	NM_000714	-0.869	-1.505
phosphoinositide-3-kinase, class 3	PIK3C3	NM_002647	-1.068	-1.573
high-mobility group nucleosomal binding domain 2	HMGN2	NM_005517	-15.478	-15.328
ribokinase	RBSK	NM_022128	-15.761	-13.385
cytochrome P450, family 2, subfamily B, polypeptide 6	CYP2B6	NM_000767	-16.007	-16.537
uncoupling protein 1 (mitochondrial, proton carrier)	UCP1	NM_021833	-17.739	-15.986
<b>Growth/trophic factors</b>				
transforming growth factor, beta 2	TGFB2	NM_003238	-1.495	-1.523
fibroblast growth factor receptor 4	FGFR4	NM_002011	-3.594	-2.495
latent transforming growth factor beta binding protein 4	LTBP4	NM_003573	-15.727	-18.839
chemokine (C-X-C motif) ligand 10	CXCL10	NM_001565	-16.853	-12.510
<b>Apoptosis</b>				
BCL2-associated X protein	BAX	NM_138764	-1.879	-1.852
<b>Signal transduction</b>				
membrane protein, palmitoylated 3	MPP3	NM_001932	-1.246	-1.564
heat shock 70kDa protein 4	HSPA4	AB023420	-6.114	-5.018
annexin A5	ANXA5	NM_001154	-8.883	-6.025
GTP binding protein 1	GTPBP1	NM_004286	-15.221	-14.419
<b>Transcription, translation, and RNA processing</b>				
GA binding protein transcription factor, beta subunit 2	GABPB2	NM_005254	-1.407	-1.520
<b>Structural</b>				
actin, alpha, cardiac muscle 1	ACTC	AK056592	-1.829	-2.009