

Table 4A. Microarray results of intestinal genes differentially downregulated, under glucose and fructose perfusion, between 20d and 10d old pups

No access	symbol	name and function	20F vs 10F		20G vs 10G	
			Mean fold change	F	Mean fold change	F
Metabolism						
NM_017015	Gusb	glucuronidase, beta	-3.23	5	-3.70	5
U67915	Mcpt1	mast cell protease 1	-3.13	5	-2.44	5
NM_017320	Ctss	cathepsin S	-3.03	4	-4.17	4
AF102262	B4galt1	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 1	-2.78	5	-2.22	5
AB033418	Slc2a8	Type 8 facilitated glucose transporter (GLUT8)	-2.70	5	-3.45	5
AB009372	LOC246266	lysophospholipase	-2.70	4	-2.63	4
X73911	Abp1	amiloride binding protein 1	-2.63	4	-3.45	5
X82396	Ctsb	cathepsin B	-2.63	5	-2.38	4
X16957	Cst3	cystatin C	-2.56	5	-2.78	5
NM_017351	PAIHC3	pre-alpha-inhibitor, heavy chain 3	-2.50	4	-2.56	4
D49434	Arsb	arylsulfatase B	-2.44	4	-3.45	5
X54467	Ctsd	cathepsin D	-2.33	4	-2.86	4
M32247	Serpina1	serine (or cysteine) proteinase inhibitor, clade A, member 1	-2.33	5	-2.13	4
NM_013098	G6pc	glucose-6-phosphatase, catalytic	-2.22	5	-4.76	5
S81497	Lipa	lipase A, lysosomal acid	-2.22	5	-2.56	5
M13979	Slc2a1	Type 1 glucose transporter (GLUT1)	-2.17	5	-2.86	4
NM_017143	F10	coagulation factor 10	-2.17	4	-2.56	4
D87240	Pfkfb3	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3	-1.96	4	-2.33	4
AF186469	Tm6p1	fasting-inducible integral membrane protein TM6P1	-1.89	5	-1.92	5
D87671	Tip120A	TBP-interacting protein 120A	-1.79	4	-1.64	5
NM_019291	Ca2	carbonic anhydrase 2	-1.75	4	-2.04	4
AF095449	Hadhsc	L-3-hydroxyacyl-Coenzyme A dehydrogenase, short chain	-1.64	4	-1.72	4
X15551		beta-2 glycoprotein	-1.56	4	-1.75	4
X63515	Pygl	liver glycogen phosphorylase	-1.54	4	-2.04	4
Transcription regulation DNA binding/ RNA binding						
AF250142	Nucb2	NEFA precursor	-2.04	5	-2.22	4
U77931	LOC257642	rRNA promoter binding protein	-2.13	4	-2.50	5
Z36277	Nucb	nucleobindin	-1.89	4	-2.04	4
AF090306	Rbbp7	retinoblastoma binding protein 7	-1.82	4	-1.82	5
Signal transduction						
NM_017079	Cd1d1	CD1d1 antigen	-2.86	5	-3.70	5
AF276940	Entpd2	ectonucleoside triphosphate diphosphohydrolase 2	-2.78	5	-1.89	4
S68809	S100a1	S100 calcium binding protein A1	-2.56	4	-3.85	5
NM_017113	Grn	granulin	-2.44	4	-2.50	4

U18374	Nr1h4	nuclear receptor subfamily 1, group H, member 4	-2.38	4	-2.63	5
AF030243	Cyrl	cytokine receptor-like protein CYRL	-2.33	4	-2.50	5
L19699	Ralb	v-ral simian leukemia viral oncogene homolog B	-2.33	5	-2.08	4
AB000928	Zp1	zona pellucida glycoprotein 1	-2.33	5	-2.08	4
X14066	App	amyloid beta (A4) precursor protein	-2.27	4	-3.33	4
X96663	Rab29	Ras-related GTP-binding protein Rab29	-2.04	4	-2.86	4
X14834	Igf2	insulin-like growth factor 2	-2.04	4	-2.00	4
X07648		amyloid protein	-2.00	5	-2.56	4
AF118816	Rdc1	chemokine orphan receptor 1	-2.00	4	-2.00	5
U42411	Prkab1	protein kinase, AMP-activated, beta 1 non-catalytic subunit	-2.00	4	-1.89	4
AJ131111	Lancl1	lanC (bacterial lantibiotic synthetase component C)-like 1	-1.96	5	-2.22	5
AB000199	Cca2	CCA2 protein	-1.89	4	-1.92	4
NM_017181	Fah	fumarylacetoacetate hydrolase	-1.82	4	-2.63	4
M31495	Sct	secretin	-1.82	4	-2.27	4
NM_012588	Igfbp3	insulin-like growth factor binding protein 3	-1.82	5	-2.00	5
U35775	Add3	adducin 3, gamma	-1.75	5	-1.85	4
S61973	Grina	NMDA receptor glutamate-binding chain	-1.72	4	-2.22	4
X76489	Cd9	CD9 antigen	-1.69	4	-2.78	4
X52835	F2	coagulation factor 2	-1.69	5	-2.13	5
AF022087	Gng2	guanine nucleotide binding protein, gamma 2	-1.54	5	-2.86	5
Development/proliferation/differentiation						
NM_019290	Btg3	B-cell translocation gene 3	-2.38	5	-3.03	5
AB025023	Mdk	midkine	-2.08	5	-2.08	5
AF221952	Mucdhl	mucin and cadherin-like	-1.89	4	-2.56	5
M12725	Pva	parvalbumin	-1.69	4	-2.17	4
Hormones metabolism						
X57999	Dio1	deiodinase, iodothyronine, type I	-4.00	5	-4.76	4
NM_012661	Sts	steroid sulfatase	-1.89	4	-1.79	4
Translation and protein maturation						
NM_017068	Lamp2	lysosomal membrane glycoprotein 2	-2.94	5	-3.85	4
U85512	Gchfr	GTP cyclohydrolase I feedback regulatory protein	-1.96	5	-2.50	5
AJ301677	Mlp	MARCKS-like protein	-1.92	4	-1.67	4
X17611	Alpi	Alkaline phosphatase 1, intestinal, defined by SSR	-1.92	4	-2.38	4
Transport						
Z67744	Clcn7	chloride channel 7	-2.63	4	-1.96	5
M31178	Calb1	calbindin 1	-2.50	4	-2.94	4
NM_017217	Slc7a3	amino acid transporter	-2.50	5	-2.86	4
D85100	Slc27a2	fatty acid transporter	-2.00	4	-3.03	5
U18729	Cyba	cytochrome b558 alpha-subunit	-1.92	4	-2.08	5
NM_017125	Cd63	CD63 antigen	-1.89	4	-2.44	4
M31155	Prlpb	prolactin-like protein B	-1.89	4	-2.08	5
AF054810	Tcn2p	transcobalamin II precursor	-1.85	4	-2.27	4

AF170253	Slpa	septin-like protein	-1.82	5	-1.92	4
NM_019269	Slc22a5	carnitine/organic cation transporter	-1.79	5	-2.33	4
NM_017277	Ap1b1	adaptor protein complex AP-1, beta 1 subunit	-1.64	4	-2.08	5
AB020520	Slc7a7	cationic amino acid transporter	-1.56	4	-1.79	4
Unclassified						
AF110026	Map17	membrane-associated protein 17	-3.03	5	-4.55	5
AF214733	Upa	uterine-specific proline-rich acidic protein	-2.78	5	-3.13	5
AF053094	Cdkn1c	cyclin-dependent kinase inhibitor 1C, p57	-2.50	4	-4.35	5
AF152002		hypothetical gene supported by AF152002	-2.00	5	-2.17	4
S79797	Gcnt1	enzymatic glycosylation-regulating gene	-1.67	4	-2.04	4
NM_012857	Lamp1	lysosomal membrane glycoprotein 1	-1.61	4	-1.89	4

Table 4A shows genes downregulated that changed by more than 1.5 fold and less than 5 fold in at least four of five samples under glucose or fructose perfusion. Values are mean \pm SE for each gene; n = 5 experiments. Negative values of the “20F vs 10F” column indicate the fold decrease in the expression of a gene in 20 d old F-perfused compared with 10 d old F-perfused intestine. Values of the “20G vs 10G” column indicate the fold decrease in the expression of a gene in 20 d old G-perfused compared with 10 d old G-perfused intestine.