

Supplemental Table 2: Bioinformatics analyses of positional candidate genes mapping to *Deptor*-containing *Fob3a* QTL region

Chr	LOCATION (bp) ¹		GENE Symbol	GENE name	SNPs ² non-IBD	MOLECULAR FUNCTION ³	EXPRESSION ⁴	EXPRESSION ⁶	KNOCKOUT - TRANSGENIC ⁷
	Start	End					high in tissues ⁵	in WAT	
15	42254801	42507051	<i>Angpt1</i>	<i>angiopoietin-like 1</i>	Yes	receptor binding, receptor tyrosine kinase binding, vascular endothelial growth factor receptor binding	<i>Im, Mg, Lu, Pi, He, Os</i>	yes	cardiovascular, embryogenesis, muscle, mortality/aging
15	42850869	43000892	<i>Rspo2</i>	<i>R-spondin 2 homolog</i>	Yes	heparin binding, Wnt receptor signaling pathway	<i>Oc, Fe, Osb, Br</i>	yes	respiratory, homeostasis, limbs/digits/tail, skeleton, craniofacial, cardiovascular, digestive/alimentary, mortality/aging
15	43080127	43112789	<i>Eif3e</i>	<i>eukaryotic translation initiation factor 3, subunit E</i>	Yes	protein N-terminus binding, contributes to translation initiation factor activity	<i>Im, Bl, Bs, Osb, Te, Di, Pr, Em, Pi, Re</i>	yes	not available
15	43307303	43357851	<i>Ttc35</i>	<i>tetratricopeptide repeat domain 35</i>	Yes	ligand binding	<i>Osb, Bs, Im, In, He, Sm, Br, Bl, Wat, Vmo</i>	yes	not available
15	43694721	43700098	<i>Tmem74</i>	<i>transmembrane protein 74</i>	Yes	unknown	<i>Fe, Oc, Br, Mg</i>	no	not available
15	44027160	44059621	<i>Trhr</i>	<i>thyrotropin releasing hormone receptor</i>	Yes	G-protein coupled receptor activity, protein homodimerization activity, receptor activity, signal transducer activity, thyrotropin-releasing hormone receptor activity	<i>Po, Br, Pi, Th, Sm,</i>	no	homeostasis, metabolism
15	44205305	44257947	<i>Nudcd1</i>	<i>NudC domain containing 1</i>	Yes	unknown	<i>Es, Osb, Sg, Em, In, Pr, Te, Ut, Di, Mg</i>	yes	not available
15	44258185	44267759	<i>Eny2</i>	<i>enhancer of yellow 2 homolog</i>	Yes	ligand-dependent nuclear receptor transcription coactivator activity, transcription coactivator activity	<i>Br, Po, Re, Di, Ki, Es</i>	yes	not available
15	44287627	44427217	<i>Pkhd11l</i>	<i>polycystic kidney and hepatic disease 1-like 1</i>	Yes	unknown	<i>Oc, Vmo, Po, Br, Wat, Pa, Li, In, Ut, Th</i>	yes	not available
15	44449387	44471098	<i>Ebag9</i>	<i>estrogen receptor-binding fragment-associated gene 9</i>	Yes	unknown	<i>Th, Sp, Bm, Sm, Br, Pa, He, Em, Fe, Li</i>	yes	immune, hematopoietic
15	44501930	44618137	<i>Sybu</i>	<i>syntabulin (syntaxin-interacting)</i>	Yes	unknown	<i>Br, Bm, Li, Pa, Th, Bat, Sg, Bl, Fe, Sm</i>	no	not available
15	44936358	44944901	<i>Kcnv1</i>	<i>potassium channel, subfamily V, member 1</i>	Yes	ion channel activity, potassium channel activity, voltage-gated ion channel activity, voltage-gated potassium channel activity	<i>Br</i>	no	behaviour, muscle (tremors and ataxia)
15	47411797	47831695	<i>Csmd3</i>	<i>CUB and Sushi multiple domains 3</i>	Yes	unknown	<i>Bat, Pa, Bm, Li, Im, Sp, Th, Sg, Sm, Fe</i>	no	not available
15	50490508	50720115	<i>Trps1</i>	<i>trichorhinophalangeal syndrome 1</i>	Yes	DNA binding, metal ion binding, protein binding, sequence-specific DNA binding, sequence-specific DNA binding transcription factor activity, transcription repressor activity, zinc ion binding	<i>Fe, Oc, Mg, Di, Wat, Se, So, Moe, Vmo, Ut</i>	yes	mortality/aging, craniofacial, skeleton, digestive/alimentary, integument
15	54080702	54108567	<i>Tnfrsf11b</i>	<i>tumor necrosis factor receptor superfamily, member 11b</i>	Yes	receptor activity	<i>Pi, Osb, Vmo, Ag</i>	yes	skeleton, immune, limbs/digits/tail, craniofacial, hematopoietic, hearing, cardiovascular
15	54240857	54296441	<i>Colec10</i>	<i>collectin sub-family member 10</i>	Yes	Binding, mannose binding, sugar binding	<i>Li, Th, Bm, St, Sp, Pa</i>	no	not available
15	54401568	54432921	<i>Mal2</i>	<i>mal, T-cell differentiation protein 2</i>	Yes	unknown	<i>Lu, In, Br, Re, St, Ut, Tg, Tr, Mg, Di</i>	no	not available
15	54576005	54583847	<i>Nov</i>	<i>nephroblastoma overexpressed gene</i>	Yes	unknown	<i>Osb, In, Br, Vmo, Di, Sg</i>	yes	skeleton, limbs/digits/tail, hematopoietic, immune, growth/size, muscle, vision/eye, cardiovascular, behavior, liver/biliary, renal/urinary, mortality/aging
15	54668984	54750085	<i>Enpp2</i>	<i>ectonucleotide pyrophosphatase /phosphodiesterase 2</i>	Yes	alkylglycerophosphoethanolamine phosphodiesterase activity, catalytic activity, hydrolase activity, metal ion binding, nucleic acid binding, nucleotide diphosphatase activity, phosphodiesterase I activity, polysaccharide binding, scavenger receptor activity	<i>Br, Im, Wat, Ki, Vmo, Re, Tr, Bat, Di, Li</i>	yes	homeostasis, growth/size, lethality
15	54852286	54902012	<i>Taf2</i>	<i>TAF2 RNA polymerase II, TATA box binding protein (TBP)-associated factor</i>	Yes	Binding, metalloproteinase activity, promoter binding, zinc ion binding	<i>Ts, Te, Osb, Oc, Bo, Di, Ut, Tr, Re, Po</i>	yes	not available
15	54906185	54920574	<i>Dscc1</i>	<i>defective in sister chromatid cohesion 1 homolog</i>	Yes	DNA binding	<i>Te, Oc, Bs, Osc, Bo, Bm, Em, Ts, Sg, Th</i>	yes	not available
15	54942407	55084285	<i>Deptor</i>	<i>DEP domain containing mTOR interacting protein</i>	Yes	function in adipogenesis/obesity regulation determined (this study), mTOR-interacting protein	<i>Mg, Ag, Li, Br, St, In, Bl, Wat, Sm, Bat</i>	yes	not available

¹ Chromosomal coordinates according to NCBI Build 36

² Candidate genes mapping to non-identical by descent (non-IBD) genomic intervals between the Fat and Lean mice - (see M&M for details of SNP-haplotype analysis)

³ Molecular function top-root term annotations are listed according to Gene Ontology (<http://www.geneontology.org/>); GO database release 2011-01-08

⁴ According to Bio GPS Expression (<http://biogps.gnf.org>) using mouse Gene Atlas GNF1 activity charts; up to 10 tissues with expression above Median in descending order are reported:

Ag adrenal gland; Bat brown adipose tissue, Bo bone; Br brain; Bl bladder, Bm bone marrow; Bs blastocyst; Di digits; Em embryo; Es embryonic stem cells; Fe fertilized egg; He heart; Im immune cells; In intestines; Ki kidney; Li liver; Lu lung; Mg mammary gland; Mou medial lfactory epithelium; Oc oocyte; Osb osteoblasts; Osc osteoclasts; Se snout epidermis; Sg salivary gland; Sm skeletal muscle; So septal organ; Sp spleen; St stomach; Pa pancreas; Pi pituitary; Pl placenta; Po preoptic; Pr prostate; Re retina; Te testis; Tg tongue epidermis; Th thyroid; Tr trachea; Ts Thymus; Ut uterus, Vmo vomeronasal organ; Wat white adipose tissue

⁵ Expression above Median: over 30X (bold, italic, underline); over 10X (italic, underline); over 3X (italic); over Median (normal typeset)

⁶ Expression detected in WAT by qRT-PCR

⁷ According to Mouse Genome Database (MGD) at <http://www.informatics.jax.org>, January 2011: