

Table S10: Genes differentially expressed with CR that have been validated by direct methods

Gene symbol	Up- or down-regulated	Organism	Tissue	Method	Reference
Adh	Down	Mouse	Liver	Enzyme Activity Measurement	(Hagopian, et al., 2008)
Adh	Down	Rat	Liver	Enzyme Activity Measurement	(Feuers, et al., 1989)
Car3	Down	Mouse	Liver	qRT-PCR	(Dhahbi, et al., 2004)
Cyp2e1	Up	Rat	Liver	Enzyme Activity Measurement	(Ramaiah, et al., 2001)
Cyp2f2	Down	Mouse	Liver	qRT-PCR	(Tsuchiya, et al., 2004)
Cyp4a14	Up	Mouse	liver	qRT-PCR	(Corton, et al., 2004)
Cyp4a14	Up	Mouse	Liver	qRT-PCR	(Tsuchiya, et al., 2004)
Cyp7a1	Up	Mouse	liver	qRT-PCR	(Corton, et al., 2004)
G0s2	Down	Mouse	Liver	qRT-PCR	(Tsuchiya, et al., 2004)
Ghr	Down	Mouse	Liver	qRT-PCR	(Estep, et al., 2009)
Igfbp2	Up	Mouse	Liver	qRT-PCR	(Tsuchiya, et al., 2004)
Mt1	Up	Mouse	Liver	qRT-PCR	(Dhahbi, et al., 2004)
Mt1	Down	Mouse	Liver	qRT-PCR	(Tsuchiya, et al., 2004)
Mt1/2/3/4	Up	Mouse	Liver	cadmium- binding assay	(Kondoh, et al., 2002)
Mt2	Up	Mouse	Liver	Northern-blot analysis	(Waelput, et al., 2000)
Per2	Up	Mouse	Ovary	qRT-PCR	(Sharov, et al., 2008)
Pla2g12	Up	Mouse	liver	qRT-PCR	(Corton, et al., 2004)
Ppara	Up	Mouse	Liver	qRT-PCR	(Selman, et al., 2006)
Ppara	Up	Mouse	Liver	qRT-PCR	(Tsuchiya, et al., 2004)
Ppara	Up	Rat	Liver	sqRT-PCR	(Zhu, et al., 2004)
Sc5d	Down	Mouse	liver	qRT-PCR	(Corton, et al., 2004)
Serpinh1	Down	Mouse	heart	qRT-PCR	(Fu, et al., 2006)
Serpinh1	Down	Mouse	liver	qRT-PCR	(Fu, et al., 2006)
Serpinh1	Down	Mouse	hypothalamus	qRT-PCR	(Fu, et al., 2006)

Srebf1	Down	Mouse	Spleen	sqRT-PCR	(Lamas, et al., 2003)
Srebf1	Down	Rat	Liver	sqRT-PCR	(Zhu, et al., 2004)
Srebf1	Down	Rat	Kidney	Western blot	(Jiang, et al., 2005)
Wee1	Up	Mouse	Mammary gland	qRT-PCR	(Padovani, et al., 2009)

References

- Corton, J.C., *et al.* (2004) Mimetics of caloric restriction include agonists of lipid-activated nuclear receptors, *J Biol Chem*, **279**, 46204-46212.
- Dhahbi, J.M., *et al.* (2004) Temporal linkage between the phenotypic and genomic responses to caloric restriction, *Proc Natl Acad Sci U S A*, **101**, 5524-5529.
- Estep, P.W., 3rd, Warner, J.B. and Bulyk, M.L. (2009) Short-term calorie restriction in male mice feminizes gene expression and alters key regulators of conserved aging regulatory pathways, *PLoS One*, **4**, e5242.
- Feuers, R.J., *et al.* (1989) Effect of chronic caloric restriction on hepatic enzymes of intermediary metabolism in the male Fischer 344 rat, *Mech Ageing Dev*, **48**, 179-189.
- Fu, C., *et al.* (2006) Tissue specific and non-specific changes in gene expression by aging and by early stage CR, *Mech Ageing Dev*, **127**, 905-916.
- Hagopian, K., Ramsey, J.J. and Weindruch, R. (2008) Enzymes of glycerol and glyceraldehyde metabolism in mouse liver: effects of caloric restriction and age on activities, *Biosci Rep*, **28**, 107-115.
- Jiang, T., *et al.* (2005) Calorie restriction modulates renal expression of sterol regulatory element binding proteins, lipid accumulation, and age-related renal disease, *J Am Soc Nephrol*, **16**, 2385-2394.
- Kondoh, M., *et al.* (2002) Enhancement of MT synthesis by leptin in fasted mice, *Life Sci*, **71**, 2425-2433.
- Lamas, O., *et al.* (2003) NF-kappa B-binding activity in an animal diet-induced overweightness model and the impact of subsequent energy restriction, *Biochem Biophys Res Commun*, **311**, 533-539.
- Padovani, M., *et al.* (2009) Distinct effects of calorie restriction and exercise on mammary gland gene expression in C57BL/6 mice, *Cancer Prev Res (Phila)*, **2**, 1076-1087.
- Ramaiah, S.K., Apte, U. and Mehendale, H.M. (2001) Cytochrome P4502E1 induction increases thioacetamide liver injury in diet-restricted rats, *Drug Metab Dispos*, **29**, 1088-1095.
- Selman, C., *et al.* (2006) Coordinated multitissue transcriptional and plasma metabolomic profiles following acute caloric restriction in mice, *Physiol Genomics*, **27**, 187-200.
- Sharov, A.A., *et al.* (2008) Effects of aging and calorie restriction on the global gene expression profiles of mouse testis and ovary, *BMC Biol*, **6**, 24.
- Tsuchiya, T., *et al.* (2004) Additive regulation of hepatic gene expression by dwarfism and caloric restriction, *Physiol Genomics*, **17**, 307-315.
- Waelput, W., *et al.* (2000) Identification and expression analysis of leptin-regulated immediate early response and late target genes, *Biochem J*, **348 Pt 1**, 55-61.
- Zhu, M., *et al.* (2004) Circulating adiponectin levels increase in rats on caloric restriction: the potential for insulin sensitization, *Exp Gerontol*, **39**, 1049-1059.