

A gene for obesity, type 2 diabetes, and non-alcoholic fatty liver disease

Contact: Dabney Johnson; johnsondk@ornl.gov; 865-574-0953

Funding Sources: ERKP804; National Institute of Diabetes and

Digestive and Kidney Disorders

- **Mice lacking the *Atp10c* gene have increased body weight, adipose deposits, plasma insulin, leptin, and triglyceride, and develop non-alcoholic fatty liver disease over time.**
- ***Atp10c* likely functions in the transport of lipids in fat cells.**
- **These abnormalities occur in mutants on regular and high-fat diets.**
- **Dhar *et al.* Mice heterozygous for *Atp10c* represent a novel model of obesity and diabetes. *Journal of Nutrition*, in press.**

	10% fat diet	10% fat diet	45% fat diet	45% fat diet
	Controls	Atp10c mutants	Controls	Atp10c mutants
Body weight	28.2±2.75 g	36.28±5.99 g	32.3±3.85 g	37.4±4.86 g
Inguinal fat pad	0.22±0.08 g	0.39±0.02 g	0.41±0.14 g	0.67±0.27 g
Epididymal fat pad	0.35±0.09 g	0.65±0.16 g	0.66±0.16 g	0.66±0.13 g
Mesenteric fat pad	0.27±0.11 g	0.52±0.15 g	0.42±0.12 g	0.58±0.21 g
Retroperitoneal fat pad	0.11±0.04 g	0.21±0.07 g	0.16±0.05 g	0.26±0.16 g
Visceral fat	0.74±0.21 g	1.38±0.26 g	1.23±0.25 g	1.51±0.33 g
Adiposity index	4.6±1.20	6.9±1.32	7.1±1.51	8.2±1.0