Table S3: Genes with ASE that co-localize with genomic outliers for NH/VT and are candidates for metabolic adaptation based on mutant phenotypes

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| Gene | Mutant Phenotypes |
| *Col6a1* | body weight and size; metabolism (glucose tolerance) |
| *Prkar2b* | body weight; body fat composition; diet-induced obesity; energy expenditure; food intake; body temperature; metabolism (e.g., cholesterol, leptin, triglyceride levels) |
| *Col5a3* | body weight; diet-induced obesity; metabolism (e.g., glucose tolerance, insulin levels) |
| *Sulf2* | body weight and size |
| *Enpp3* | susceptibility to weight loss |
| *Smoc1* | body weight and size; body fat; activity level |
| *Myo10* | body weight and size |
| *Prkdc* | body size and weight gain |
| *Stard4* | body weight and size; metabolism (cholesterol level) |
| *Impact* | body weight and size; diet-induced obesity; food intake; fat composition; body temperature; metabolism (e.g., glucose level, insulin sensitivity) |
| *Lipa* | body weight; body fat composition; food intake; metabolism (e.g., triglyceride, lipid, cholesterol level, insulin resistance) |
| *Als2* | body weight |
| *Col5a2* | body weight and size |
| *Col3a1* | body size |
| *Mpzl1* | weight gain |
| *Stam* | postnatal growth |
| *Bcat2* | body weight; diet-induced obesity; body fat composition; energy expenditure; body temperature; metabolism (e.g., leptin, adiponectin, glucose, insulin levels) |
| *Stim1* | postnatal growth |
| *Wrn* | susceptibility to age related obesity; body fat composition; metabolism (e.g., triglyceride, cholestrol, insulin levels) |
| *Ets1* | body weight; postnatal growth |
| *Myo6* | body size; activity level; metabolism (e.g., glucose, triglyceride level) |
| *Tpst1* | body weight |
| *Sbno2* | body weight |
| *Cc2d2a* | body weight; postnatal growth |
| *B3glct* | body size |
| *Plaat3* | susceptibility to weight gain; body fat composition; susceptibility to diet-induced obesity; metabolism (e.g., leptin, adiponectin, glucose levels) |
| *Ahnak* | body weight; susceptibility to diet-induced obesity; body fat composition; metabolism (e.g., glucose tolerance) |
| *Cog1* | lean body mass |
| *Tmem106b* | body size; body fat amount; metabolism (insulin level, glucose tolerance) |
| *Vps13a* | body fat amount; activity |
| *Wwp1* | Activity level; metabolim (glucose level) |
| *Dhx29* | Activity level; lean body mass; metabolim (glucose tolerance) |
| *Sypl* | Metabolism (glucose level) |
| *Arhgef10* | Activity level; metabolim (glucose level) |
| *Gpr146* | metabolim (e.g., cholesterol, triglyceride level) |
| *Rsad1* | metabolism (e.g., triglyceride level) |
| *Pctp* | metabolism (e.g., cholesterol level, lipid homeostasis) |
| *Uaca* | metabolism (cholesterol level) |
| *Slc46a3* | activity, metabolism (cholesterol level) |
| *Uaca* | metabolism (cholesterol level) |
| *Cd44* | metabolism (lipid level) |
| *Mmd* | body size; activity |
| *Zfyve1* | body size |