**Table S4.** The interactions between diets and genotypes.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | HFnC vs LFnC & in Females | | | HFnC vs LFnC & in Males | | | HFC vs HFnC & in Females | | | HFC vs HFnC & in Males | | |
| gene | +/- | +/+ | *Cyp51+/-vs Cyp51+/+*  P value | +/- | +/+ | *Cyp51+/-vs Cyp51+/+*  P value | +/- | +/+ | *Cyp51+/-vs Cyp51+/+* P value | +/- | +/+ | *Cyp51+/-vs Cyp51+/+* P value |
| *Sqle* | **** |  | **\*0.064** |  |  | 0.439 | **** | **** | 0.349 | **** | **** | 0.220 |
| *Cyp51* |  | **** | **\*0.075** | = | = | 0.949 | **** | **** | 0.793 | **** | **** | 0.784 |
| *Tm7sf2* |  | **** | **\*\*0.035** | = | = | 0.858 | **** | **** | 0.924 | **** | **** | 0.990 |
| *Sc4mol* |  |  | **\*0.055** |  |  | 0.719 | **** | **** | 0.911 | **** | **** | 0.760 |
| *Nsdhl* |  | **** | **\*\*0.010** |  |  | 0.787 | **** | **** | 0.533 | **** | **** | 0.680 |
| *Abcg5* |  |  | 0.509 |  |  | **\*\*0.024** |  | **** | 0.109 |  |  | 0.715 |
| *Ldlr* |  |  | 0.237 | **** | **** | 0.364 | **** |  | **\*0.084** | **** | **** | 0.993 |
| *Lpl* | **** |  | 0.535 |  |  | 0.149 |  | **** | 0.246 | **** |  | **\*0.081** |

Left panel shows the significant interactions between two cholesterol-free diets and *Cyp51* genotype (indicated p values). The directions of arrows indicate the directions of changes from LFnC diet to HFnC diet, stars indicate statistically significant changes (\*\* p<0.05 and \* p<0.1). The right panel shows the significant interactions (p values indicated) between two high-fat diets and *Cyp51* genotype. The directions of arrows indicate directions of changes for HFnC to HFC diet and stars indicate statistically significant changes.