**Table S1: Animal Models**

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| **Animal Model1** | **Feeding regime** | **Exercise Training** |
| Control *ad libitum* (n=5) |  *Ad libitum* chow diet  | None |
| Fasting (n=5) | 36 hours fasting | None |
| Re-feed (n=5) | 36 hours fasting followed by 15 minutes of re-feeding | None |
| Exercise (n=5) | *Ad libitum* chow diet | 1 or 3 weeks of wheel running |
| CABA (n=5) | Same feeding regime as ABA  | None |
| ABA (n=5) | 1 hour chow diet feeding each day for 1 week and free access to water | 1 week of wheel running |
| CDIO (n=10) | *Ad libitum* chow diet for 9 weeks | None |
| DIO (n=10) | 60% high fat diet D12492 (Research Diets, NJ) for 9 weeks | None |
| CZ (fa/-, n=10) | *Ad libitum* chow diet for 12 weeks | None |
| Zucker (fa/fa, n=10) | *Ad libitum* chow diet for 12 weeks | None |