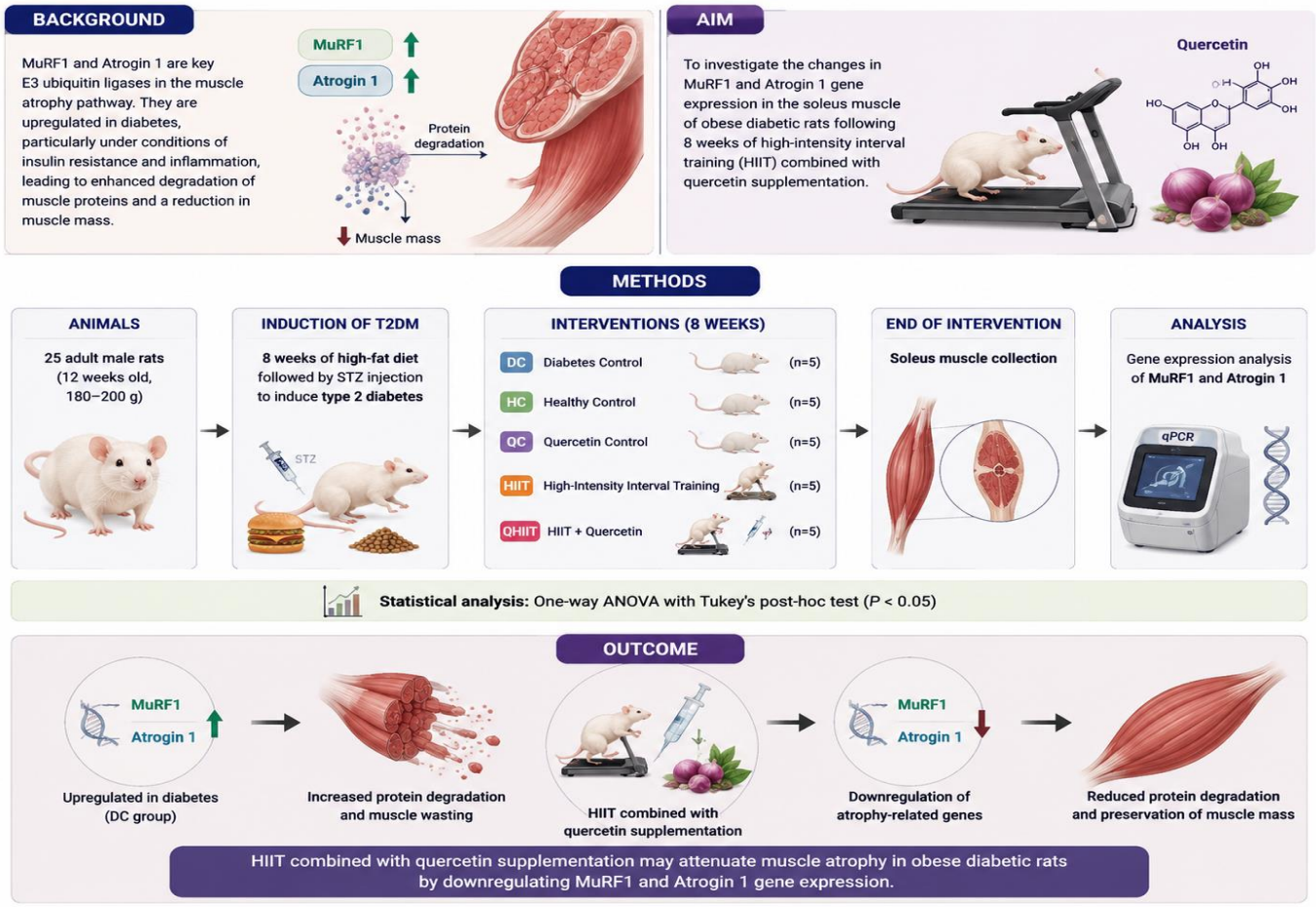

Supplementary Figure 1. This figure illustrates the overall design and rationale of the study investigating the effects of HIIT combined with quercetin supplementation on MuRF1 and Atrogin-1 gene expression in the soleus muscle of obese diabetic rats. The background section highlights that MuRF1 and Atrogin-1 are key E3 ubiquitin ligases involved in muscle atrophy and are upregulated under diabetic conditions, leading to increased protein degradation and reduced muscle mass. In this experimental study, 25 adults male Wistar rats were used, and T2DM was induced through 8 weeks of a high-fat diet followed by STZ injection. The animals were then randomly assigned to five groups, including healthy control, diabetic control, quercetin control, HIIT, and HIIT plus quercetin groups (n=5 per group). The intervention period lasted 8 weeks, after which soleus muscle samples were collected for analysis of MuRF1 and Atrogin-1 gene expression using RT-PCR. Statistical analysis was performed using one-way ANOVA followed by Tukey's post-hoc test.