

## Supplementary information

### The anti-diabetic effects of NAG-1/GDF15 on HFD/STZ-induced mice

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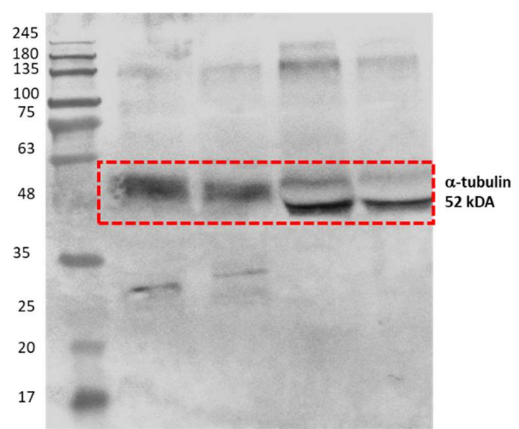
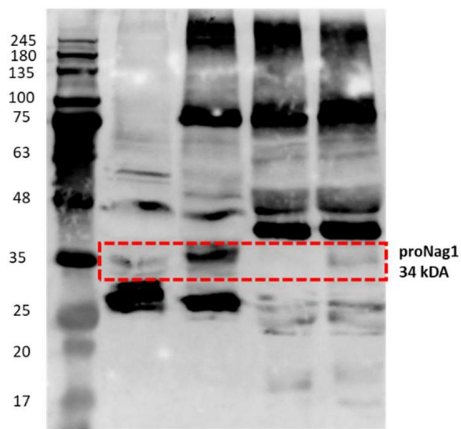
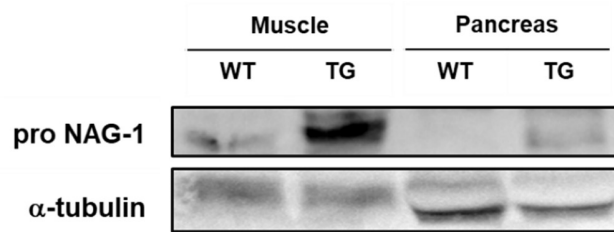
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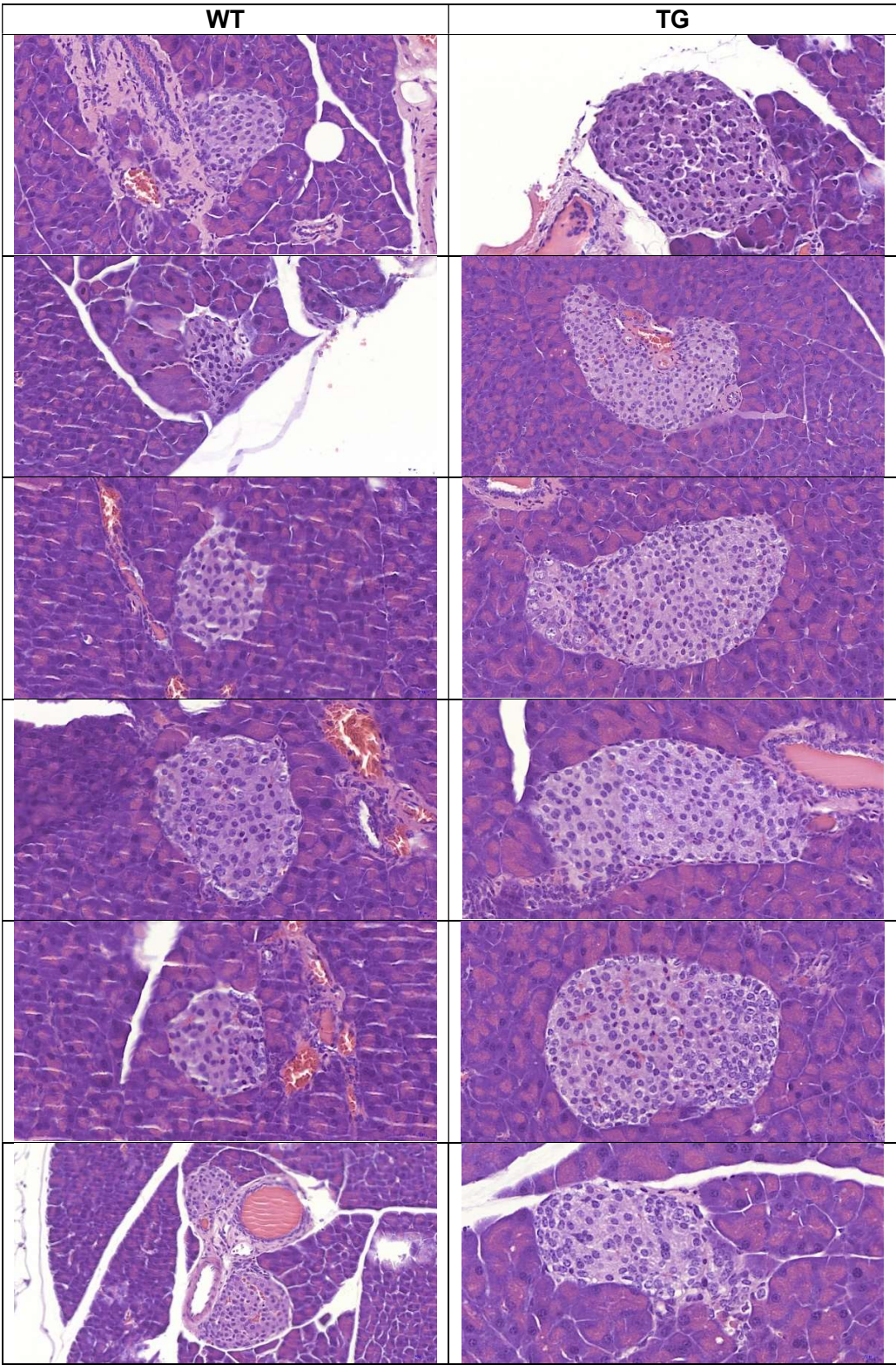
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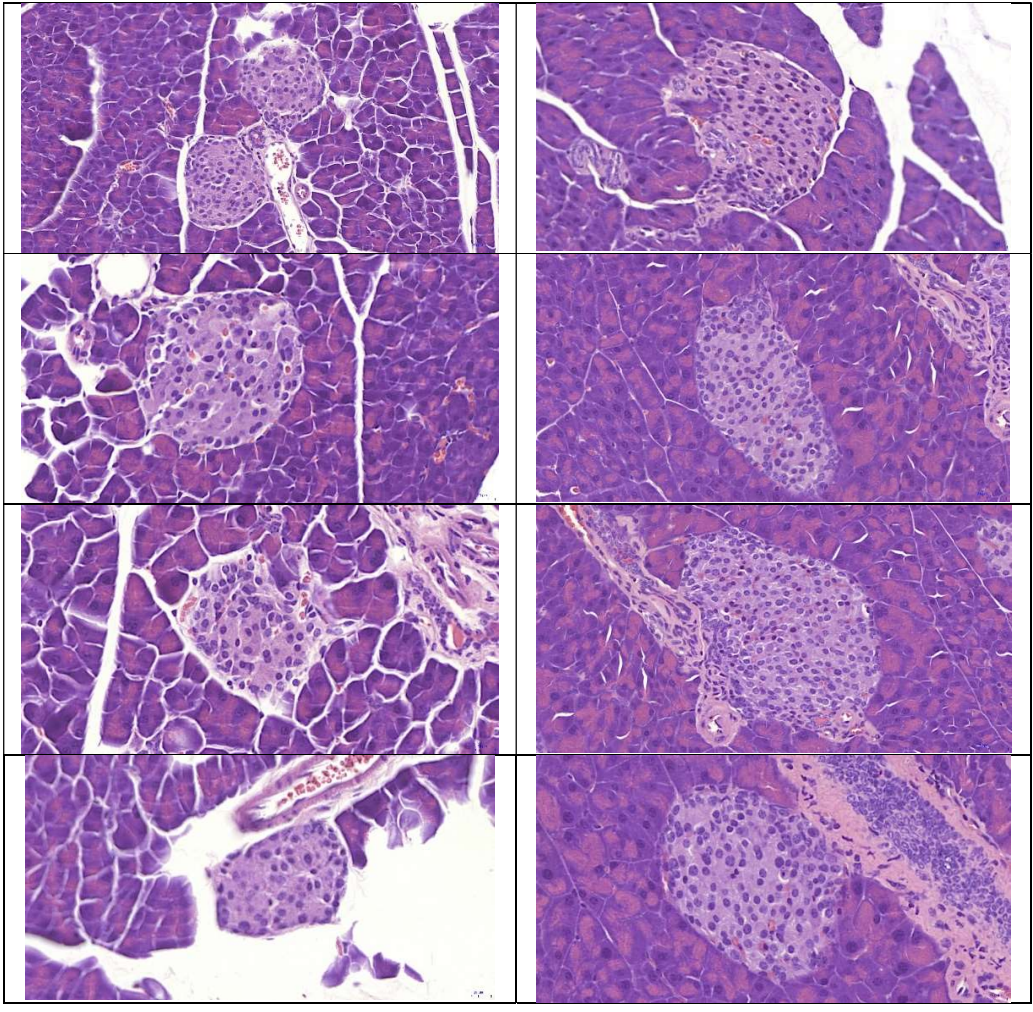
**Supplementary Figure 1.** The expression of pro NAG-1 protein in muscle and pancreas.



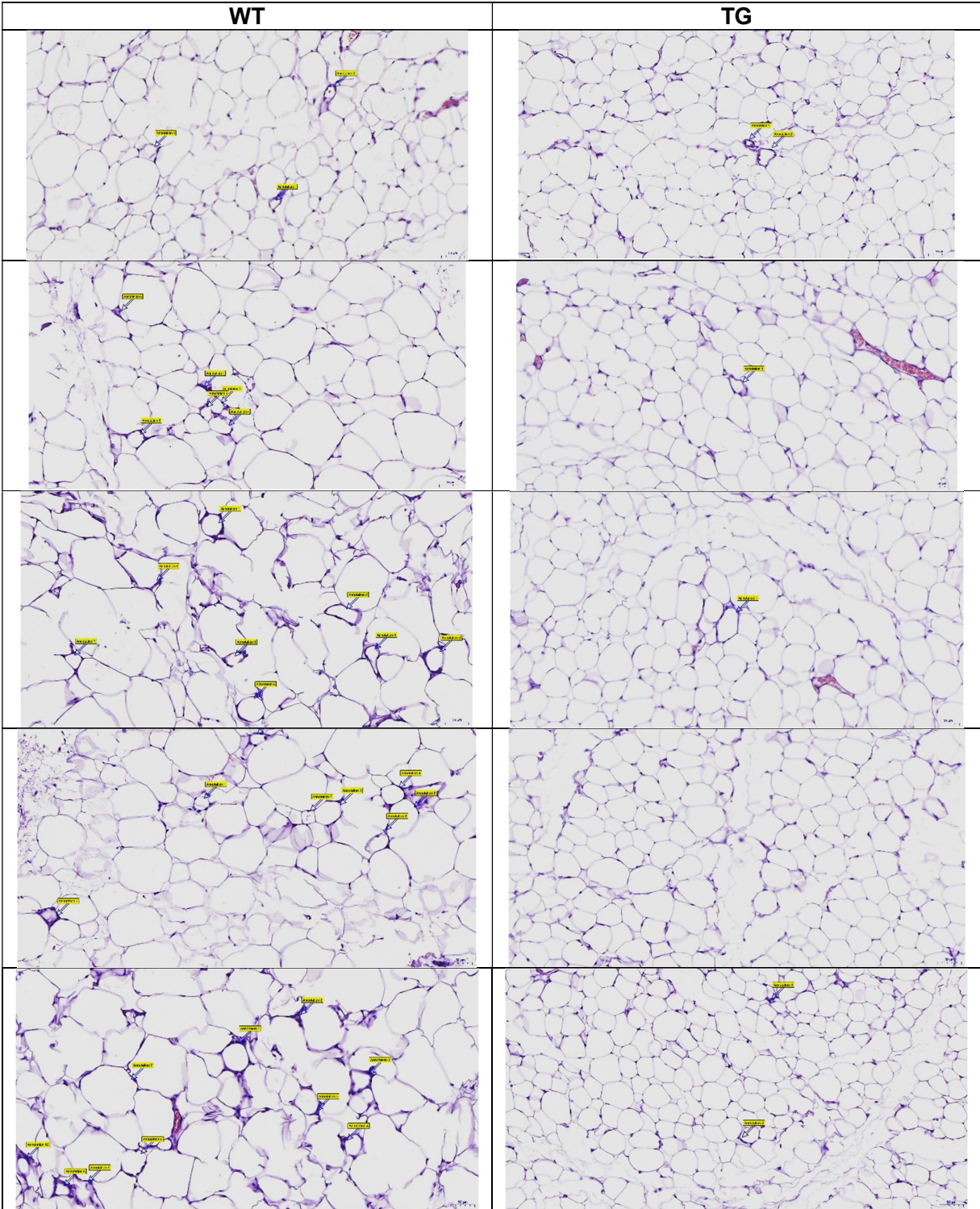
Supplementary Figure 2. Morphologies of pancreas Islets.



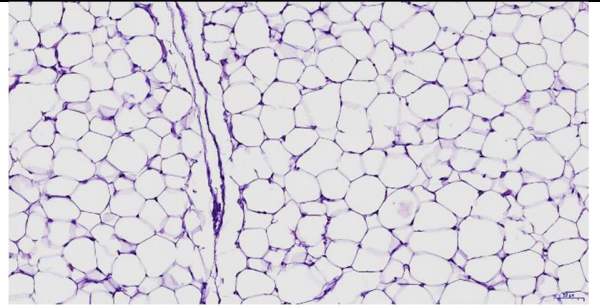
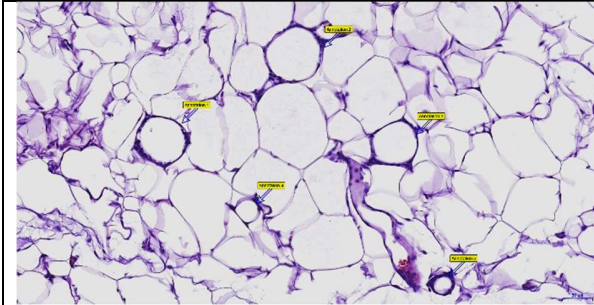
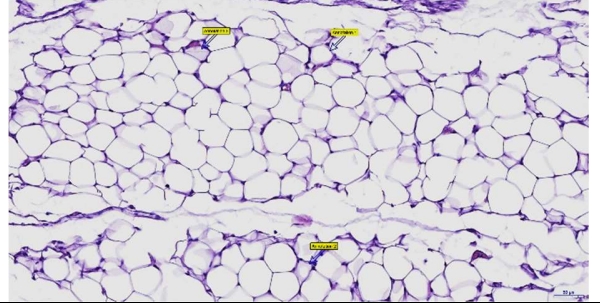
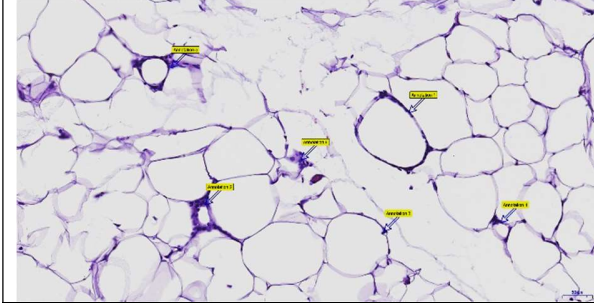
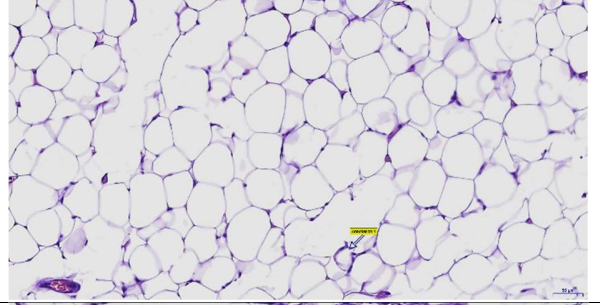
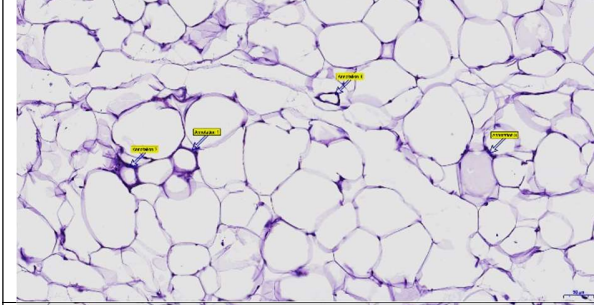
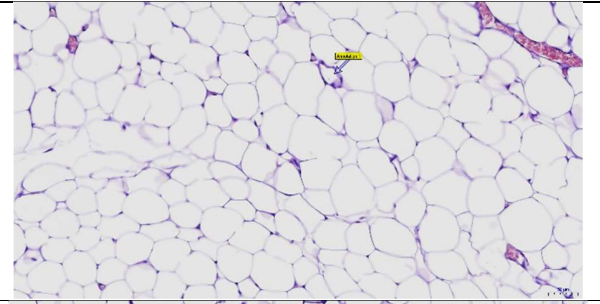
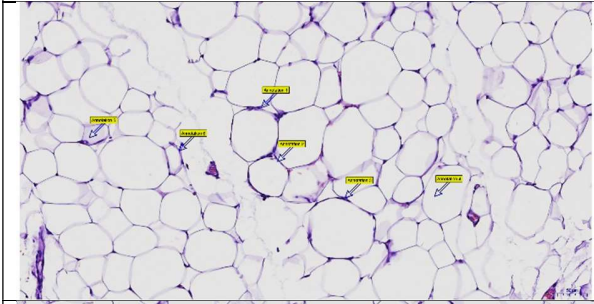
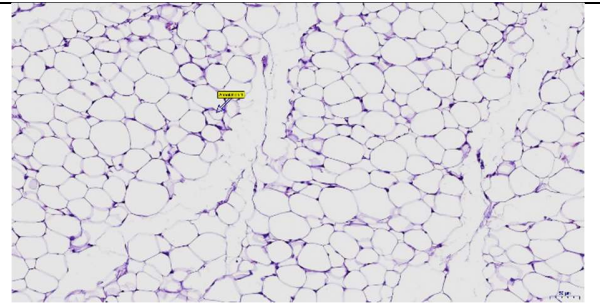
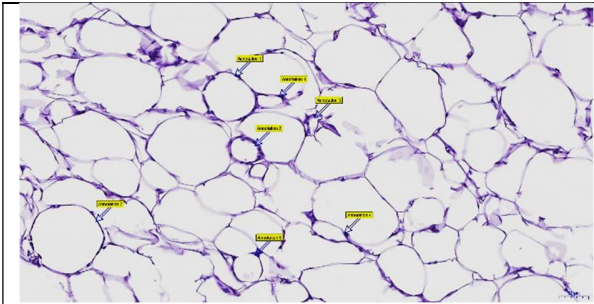




Supplementary Figure 3. Crown-like structure in adipose tissues.

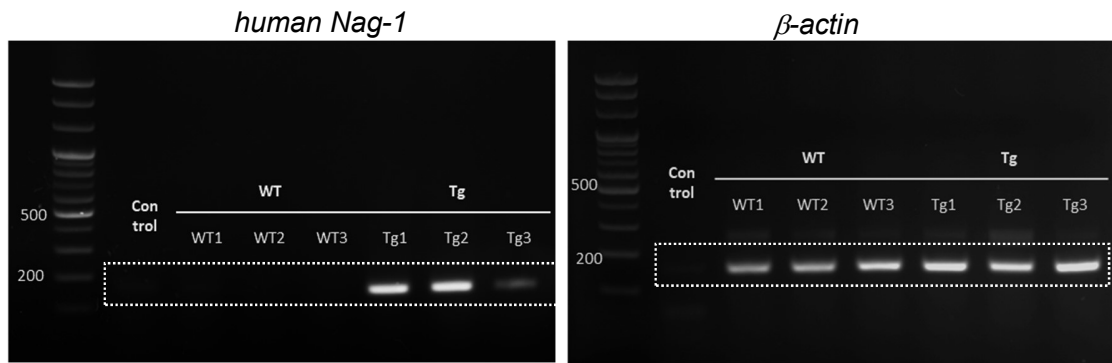




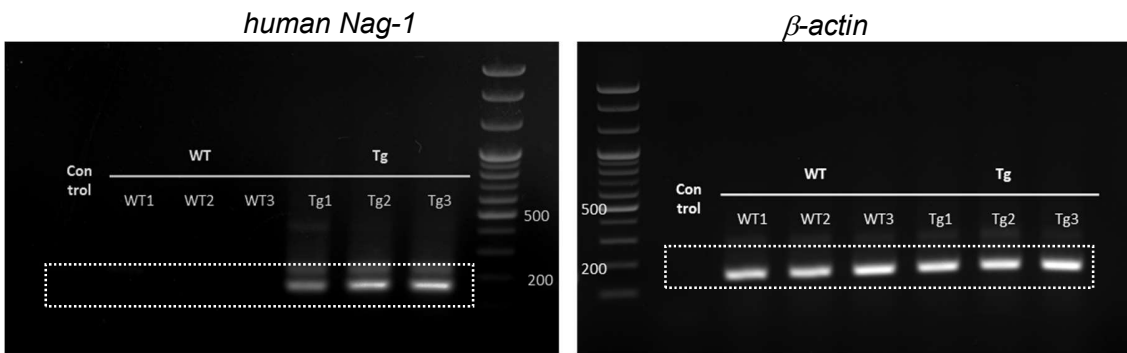


**Supplementary Figure 4.** The expression of human NAG-1 and  $\beta$ -actin in muscle, iWAT and BAT using RT-PCR. (*hNag1* = 196 bp,  *$\beta$ -actin*=154 bp)

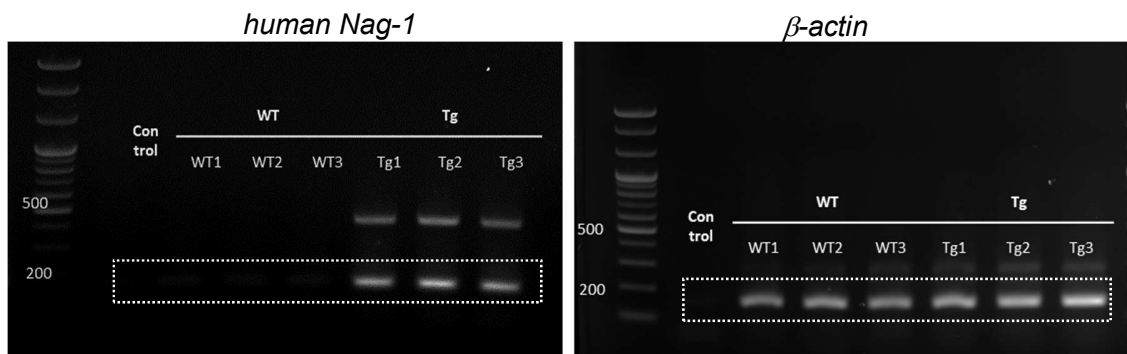
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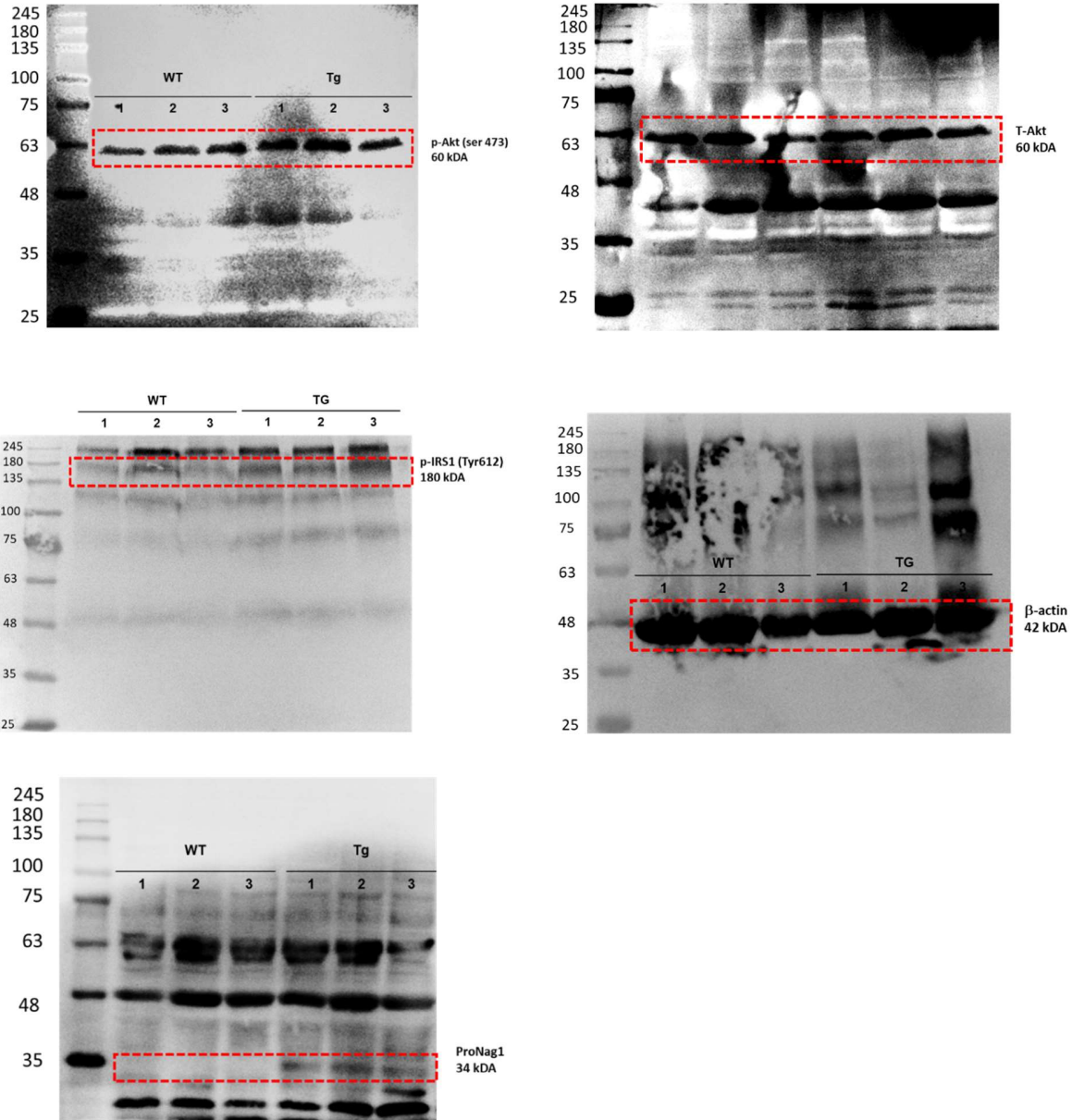
- iWAT



- BAT



**Supplementary Figure 5.** The expression of p-Akt, human NAG-1 and  $\beta$ -actin protein in muscle using western blot.



\*Parallel membrane