



GH Promotes mRNA Expression and Secretion of Progranulin in 3T3-L1 Cells

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Background:

Recently, progranulin(PGRN) was a novel adipokine which is a key adipokine insulin resistance in adipose tissue. While GH was closely related to glucose metabolism and insulin resistance.

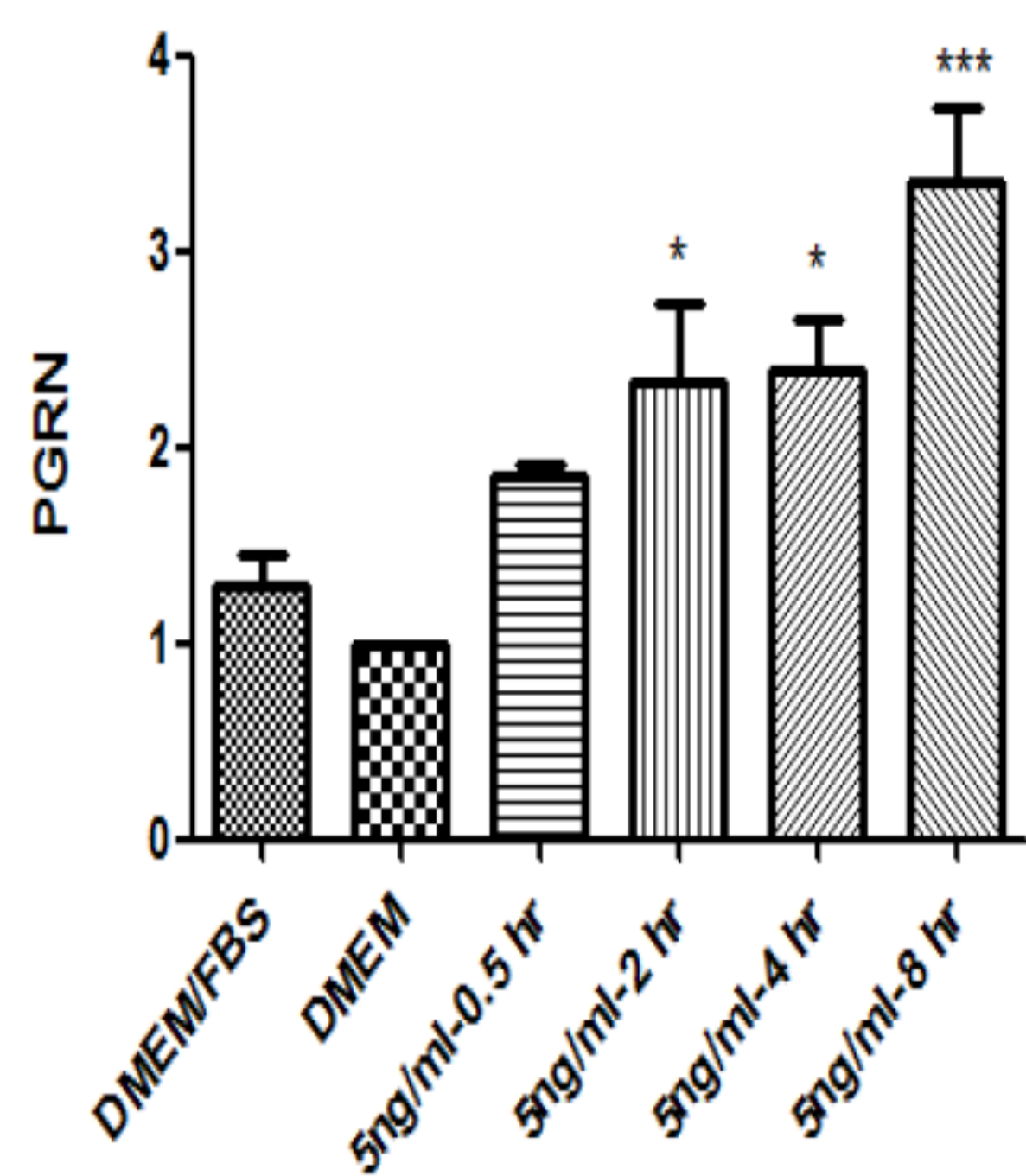
Objective and hypotheses:

We suspected that there maybe some positive relationship between GH and PGRN. Our research was to detect expression and regulation of PGRN in mouse 3T3-L1 cells follow the treatment with GH.

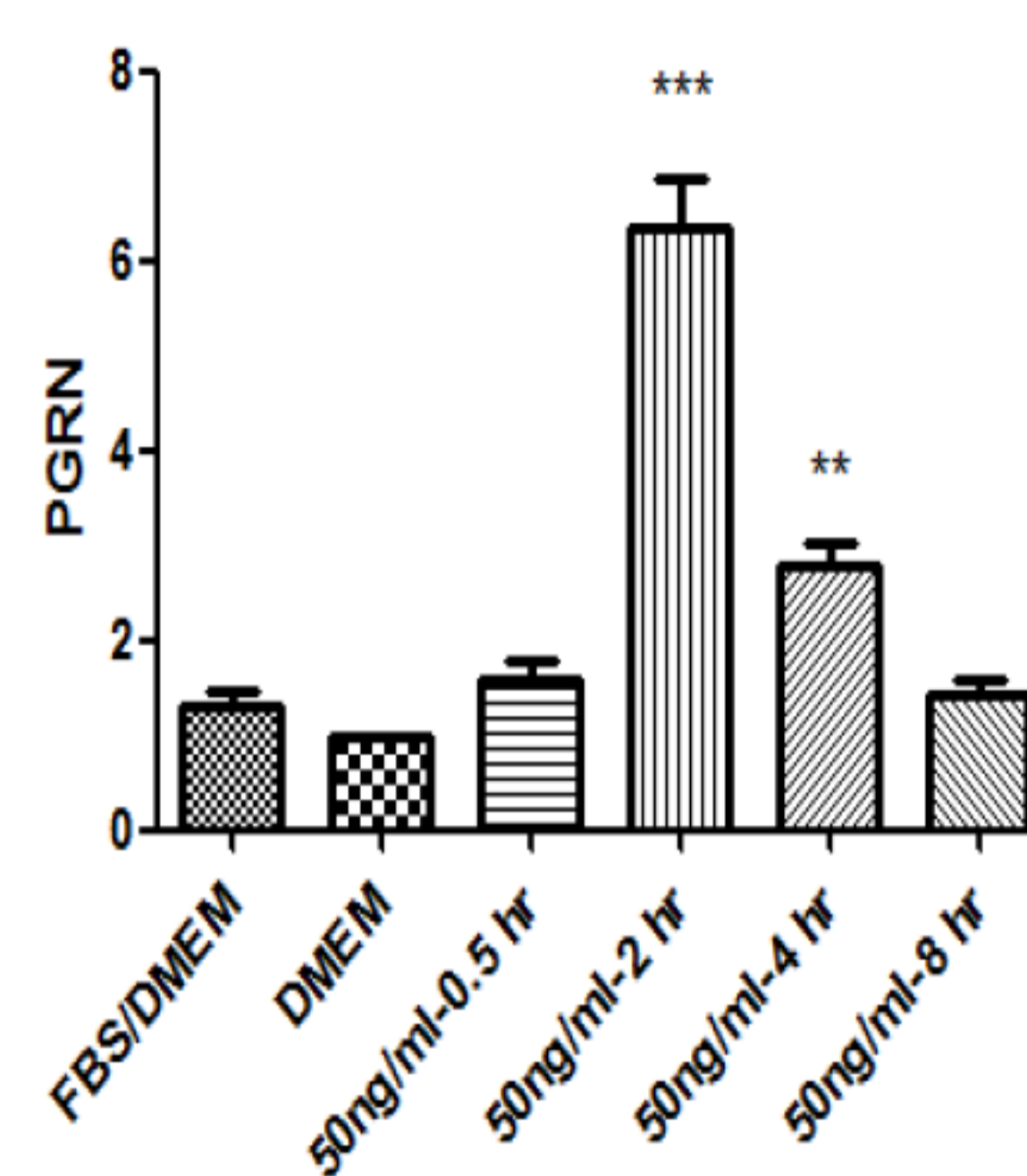
Method:

The mRNA was measured by quantitative PCR and the protein was tested by Western blot in mouse 3T3-L1 cells follows a series of concentrations and treating time of GH.

Graphs and tables:



Graph 1 When the concentration of GH was 5ng/ml, the expression of PGRN mRNA in the group of 2hr, 4hr and 8hr increased significantly than the control (DMEM/FBS without GH) group, and showed us no difference when compare with the group of 0.5hr, *P<0.05, ***P<0.001



Graph 2 When the concentration of GH was 50ng/ml, the expression of PGRN mRNA in the group of 2hr and 4hr increased significantly than the control group, and showed us no difference when compare with the group of 0.5hr and 8hr, *P<0.05, ***P<0.001

Results:

We find that both Western blot analyses and quantitative PCR showed that 500 ng/ml GH increases the expression of PGRN in a quick reaction (0.5-2 hours), and decreases since 4 hours, while 5 ng/ml GH promotes the expression of PGRN but without change with time.

Conclusions:

Our results show that GH regulated the expression of PGRN in a time and concentration dependent manner.

