

September 15, 2013

Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 4106-review.doc).

Title: Deletion of *Gpr128* results in weight loss and increased intestinal contraction frequency

Author: Ying-Yin Ni, Yan Chen, Shun-Yuan Lu, Bi-Ying Sun, Fang Wang, Xiao-Lin Wu, Su-Ying Dang, Guo-Hua Zhang, Hong-Xin Zhang, Yin Kuang, Jian Fei, Ming-Min Gu, Wei-Fang Rong, Zhu-Gang Wang

Name of Journal: *World Journal of Gastroenterology*

ESPS Manuscript NO: 4106

The manuscript has been improved according to the suggestions of reviewers:

1 Format has been updated

2 Revision has been made according to the suggestions of the reviewer

(1)Answers to reviewer **00038529**

a. Thanks for the reviewer's advices. The identification of the intracellular localization will be very helpful to explain the potential roles of *Gpr128*. We provided the data in figure 1, but we can't determine the special localization place of basolateral or apical membrane of epithelial cells of intestine.

b. We analyzed the peristalsis in WT and *Gpr128*^{-/-} mice of 8 weeks. The frequency of peristalsis was higher in *Gpr128*^{-/-} mice than in WT mice when the resting intraluminal pressure was 3 cmH₂O (6.6 ±2.3 peristalsis/15 min in *Gpr128*^{-/-} intestine vs. 2.6±1.7 peristalsis/15 min in WT intestine, n=5, P < 0.05). We added this result in figure 4 of the manuscript.

c. Based on the mouse musculus mRNA sequence (NM_172825.3), we choose forward primer R1 (5'-GATTCCAACCTTCATTACTCTG-3', located in 63-83 bp) and reverse primer R2 (5'-GGTCCATATCTGCCACTG-3', located in 478-496bp) . We used red color to point these 2 primers in the sequence. NM_172825.3:

```
1 ctcttgatct cctcgggtga agaagtagca tactgcacgc agaaaccac cttctctttg
61 gtgattccaa cttcattact ctgaattaac ttcaaaactc ttaaaccatg agatcacctg
121 tcagacagac cactgaaggg aagaattctt tcatgtttt ataactatct ctgttcgtgc
181 agtgttttgg cttccatg cgttctgtc gttcctgcaa tgcctgggta ctggtggcta
241 ttgtgtgtgg gctactgaca ggcattgttc tgggactcgg catctggagg atggcataa
301 ggatcaacag agggatattt gttcctgtgc caagtatccc tgtacagttc tgcaggaatg
361 gcggaacctg gcaaaatggc agatgcattt gtacagaaga gtggaaaggg ctgcgttgta
421 caattgctaa tttctgtgaa aatagtaccg acggtgaatt cacctttggc agtatccag
481 tgggcagata tggacctct ttgcaaacat gtgaaccggg caccctcaat gcgggcagtc.....
```

d. We changed the names of all the primers according to the reviewer's suggestions.

(2)Answers to reviewer **02276563**

a. We provided the data in figure 1, but we can't determine the special localization place of basolateral or apical membrane of epithelial cells of intestine.

b. There are individual differences in mice. So we used the correlation data of organ weight to body weight. But the reviewer's suggestion remind us to reanalysis the original organs weight data. Unfortunately, there are no differences between the *Gpr128*^{+/+} and *Gpr128*^{-/-} mice.

c. Interstitial cells of Cajal(icc)have been shown to be the pacemaker cells of the intestine and have been implied in the pathogenesis of a number of gastrointestinal motility dysfunction including idiopathic

slow transit constipation. A major breakthrough in this field was the discovery that the tyrosine kinase receptor c-kit and its ligand-stem cell factor(SCF) are critical in the normal development, maturation, and maintenance of phenotype of ICC. Stem cell leukemia(SCL) also called TAL-1 or TCL-5, is a basic domain, helix-loop-helix(bHLH)transcription factor mainly required for the development of hematopoietic cells. It has been confirmed that there are SCL binding sites on c-kit gene regulation region and SCL could strongly up regulate c-kit expression in many cells. However there is no clear report on its function in ICC and its expression of c-kit. The disruption of *Gpr128* may influence the SCF/c-kit signaling passway through the regulation of SCL expression.

d. We changed the mistakes of figure numbers.

(3)Answers to reviewer 00036517

a. We reduced the discussion of methods.

b. We reduced the sentences of results in the abstract.

c. We are sorry, but we can't use more than 20 words to write the aim.

d. We are sorry, but this time we send a clear copy of the manuscript.

e. *Gpr128* might be exclusively expressed in mouse intestine tissue.The GPCRs are expressed in specific tissues and therefore are important targets for drug discovery. So we interested in the role of *Gpr128* in the intestine.

f. We should study more of the *Gpr128* physiological function in the intestine.

g. We added more thoughts in the discussion and conclusion .

3 References and typesetting were corrected

Thank you again for publishing our manuscript in the *World Journal of Gastroenterology*.

Sincerely yours,

Zhu-Gang Wang, MD & PhD

Professor & Director, Department of Medical Genetics

Shanghai Jiao Tong University School of Medicine

Director, Research Centre for Experimental Medicine,

Rui Jin Hospital Affiliated to Shanghai Jiao Tong University

School of Medicine

Director, Shanghai Research Center for Model Organisms

280 South Chongqing Road, Bld. 5, Rm. 801

Shanghai, 200025

P.R. China

Tel/Fax: 86-21-64457997

E-mail: zhugangw@shsmu.edu.cn

Weifang Rong, PhD

Professor & Director, Department of Physiology
Shanghai Jiao Tong University School of Medicine
280 South Chongqing Road, Bld. 1, Rm 207.

Shanghai, 200025

P.R. China

Tel: 86-21-63846590-776476

E-mail: weifangrong@shsmu.edu.cn