Reviewer’s report

Title: Expression levels of the hypothalamic AMPK gene determine the responsiveness of the rats to electroacupuncture-induced analgesia

Version: 1 Date: 28 February 2014

Reviewer: Hee Young Kim

Reviewer’s report:

Minor Essential Revisions

The authors show interesting results that close relationship between hypothalamic AMPK and EA analgesia. This manuscript need to clarify the following points.

1. In materials and methods, a pair of needles was used to stimulate ST36. Clarify how the needles were electrically stimulated at ST36 acupoint., i.e., positive electrode in left ST36, and which depth was inserted.

2. In discussion, authors need to describe how acupuncture produces more analgesic effects in the rat with higher AMPK than the rats expressing lower AMPK.

3. In discussion, since Ref #17, 18, 30 show AMPK activation in peripheral & spinal cord, they do not support your results that AMPK expression in hypothalamus plays role in EA-analgesia. It should be clarified how expression of AMPK in hypothalamus correlates with thermal pain.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.