

Accepted Manuscript

Mechanism of aquaporin 4 (AQP 4) up-regulation in rat cerebral edema under hypobaric hypoxia and the preventative effect of puerarin

Chi Wang, Muiyang Yan, Hui Jiang, Qi Wang, Shang He, Jingwen Chen, Chengbin Wang



PII: S0024-3205(17)30537-4
DOI: doi:[10.1016/j.lfs.2017.10.021](https://doi.org/10.1016/j.lfs.2017.10.021)
Reference: LFS 15390

To appear in: *Life Sciences*

Received date: 23 August 2017
Revised date: 8 October 2017
Accepted date: 17 October 2017

Please cite this article as: Chi Wang, Muiyang Yan, Hui Jiang, Qi Wang, Shang He, Jingwen Chen, Chengbin Wang , Mechanism of aquaporin 4 (AQP 4) up-regulation in rat cerebral edema under hypobaric hypoxia and the preventative effect of puerarin. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Lfs(2017), doi:[10.1016/j.lfs.2017.10.021](https://doi.org/10.1016/j.lfs.2017.10.021)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Title page**Title:**

Mechanism of aquaporin 4 (AQP 4) up-regulation in rat cerebral edema under hypobaric hypoxia and the preventative effect of puerarin

Authors and affiliations:

Chi Wang¹, Muiyang Yan², Hui Jiang², Qi Wang³, Shang He¹, Jingwen Chen², Chengbin Wang^{1#}

¹ Department of Clinical Laboratory, PLA General Hospital, 100853, Beijing

² Department of Hyperbaric Chamber, PLA General Hospital, 100853, Beijing

³ Outpatient Department of Chinese People's Liberation Army Aviation School, 101023, Beijing

Corresponding author:

Chengbin Wang

E-mail: wangcb301301@163.com,

Phone number: +86-18911764209

Present address: 28, Fuxing Road, Haidian District, Beijing, China

Abstract**Aim**

We aim to investigate the mechanism of aquaporin 4 (AQP 4) up-regulation during high-altitude cerebral edema (HACE) in rats under hypobaric hypoxia and preventative effect of puerarin.

Methods

Rats were exposed to a hypobaric chamber with or without the preventative treatment of puerarin or dexamethasone. Morris water maze was used to evaluate the spatial memory injury. HE staining and W/D ratio were used to evaluate edema injury. Rat astrocytes and microglia were co-cultured under the condition of hypoxia with the administration of p38 inhibitor, NF- κ B inhibitor or puerarin. Interleukin 6 (IL-6) and tumor necrosis factor α (TNF α) of cortex and culture supernatant were measured with ELISA. AQP4, phosphorylation of MAPKs, NF- κ B pathway of cortex and astrocytes were measured by Western blot.

Key findings

Weakened spatial memory and cerebral edema were observed after hypobaric hypoxia

Download English Version:

<https://daneshyari.com/en/article/8535818>

Download Persian Version:

<https://daneshyari.com/article/8535818>

[Daneshyari.com](https://daneshyari.com)