pretreatment of naloxone, idazoxan or propranolol blocked the effect of EA.

**Conclusion:** In conclusion, EA stimulation at the ST36 acupoint significantly diminished PTX-induced neuropathic pain in mice via the mediation of spinal opioid receptor, alpha2- and beta-adrenoceptors.

**Contact:** Jung-Wan Choi, cjw214@nate.com

http://dx.doi.org/10.1016/j.imr.2015.04.066

P1.060

Epimedi Herba enhances reproductive function through induction of cyclic AMP-responsive element modulator expression in infertile male mice

Kyujin Chung, Jin Hyoung Cho, Ji Eun Lee, Ha Young Kim, Do Rim Kim, Seong Kyu Park, Mun Seog Chang

Department of Prescriptionology, College of Korean Medicine, Kyung Hee University

**Purpose:** CREM (cyclic AMP-responsive element modulator) gene is essential for spermatogenesis, as it is necessary in differentiation of spermatids into sperm. In this study, to investigate the effect of Epimedi Herba (EH) on the sperm functions and the CREM transcription factor expressions in cyclophosphamide-treated mouse testes, C57BL/c mice were divided into five groups, the normal group, CP only-treated group and EH with CP (100, 500, 1000 mg/kg of EH and 100 mg/kg of CP) treated group for five weeks.

**Methods:** We performed semi-quantitive PCR and western blot analysis for the examination of the CREM expression and analyzed sperm parameters using CASA system.

**Results:** In our results, EH showed protective effect on CP induced reproductive toxicity in male mice by recovering sperm count, motility. CREM expression increased in EH treated groups at 500 mg/kg concentration than that of control group (83.8%; p < 0.01 vs. 71.5%; p < 0.05, respectively).

**Conclusion:** Our results suggest that EH plays an important role in male fertility, and it could be applied for clinical use in infertility treatment.

**Contact:** Kyujin Chung, hykim0927@naver.com

http://dx.doi.org/10.1016/j.imr.2015.04.067

P1.061

Ethanol extracts of Sanguisorba officinalis inhibits IgE-mediated degranulation in Bone Marrow Derived-Mast cells and suppresses TNF-α/IFN-γ-induced

Ju-Hye Yang, Won-Kyung Cho, Jae-Myung Yoo, Jin-Yeul Ma

Korea Institute of Oriental Medicine

**Purpose:** Sanguisorba officinalis (S. officinalis) is a perennial plant widely distributed in Asia, and it has been used to treat various diseases containing diarrhea, chronic intestinal infections, duodenal ulcers internal hemorrhage and burns.

Here, we investigated the effect of ETOH extract from S. officinalis (ESO) against atopic dermatitis using mouse bone marrow mast cells (BMMCs) and human keratinocyte (HaCaT) cells.

**Methods:** For detecting the effect of ESO on mast cell degranulation, the activity of β-Hexosaminidase (β-Hex) was using spectrophotometric method. We used HaCat cells stimulated with TNF-α and IFN-γ to induce the production of proinflammatory cytokines and chemokines. The production and activation of cytokines and chemokines were determined by ELISA and western blot analysis. Also, we checked the activation of NFκB and MAPK pathway related to inflammation via western blot analysis.

**Results:** ESO dose-dependently inhibited IgE-mediated degranulation in BMMCs. ESO reduced the production of proinflammatory cytokines and chemokines such as interleukin-6 (IL-6), interleukin-8 (IL-8), regulated on activation normal T-cell expressed and secreted (RANTES), macrophage-derived chemokine (MDC) in TNF-α/IFN-γ stimulated HaCat cells. The treatment of TNF-α/IFN-γ was activated nuclear factor-κB (NF-κB) transcription factor and increased phosphorylation of mitogen-activated protein kinases (MAPK) in HaCat cells. Consistently, ESO suppressed IκB-α phosphorylation, decreased p65 nuclear translocation and MAPK phosphorylation.

**Conclusion:** Our results suggest that ESO have a potential for atopic dermatitis treatment.

**Contact:** Ju-Hye Yang, jjuyhe@kiom.re.kr

http://dx.doi.org/10.1016/j.imr.2015.04.068

P1.062

The role of peripheral Rho-associated protein kinase in acupuncture analgesia

Ji-Yeun Park1, Jongbae J Park2, Yang-Hwa Kang1, So-Ra Ahn1, Jae-Hwan Jang1, Joon-Sung Nah1, Songhee Jeon3, Hi-Joon Park1

1 Acupuncture & Meridian Science Research Center (AMSRC), Kyung Hee University 2 Asian Medicine and Acupuncture Research, Chapel Hill, North Carolina 3 Dongguk University Research Institute of Biotechnology

**Purpose:** The aim of study was to identify the role of tissue deformation related proteins evoked by acupuncture needle rotation in mediating analgesic effect of acupuncture.

**Methods:** Acupuncture was performed on the GB34 acupuncture point of mice. Then, the expression levels of ROCK1, ROCK2 and p-ERM in the skin layer were determined 5, 10, 30 and 60 minutes after acupuncture needling. To investigate the correlation between the local molecular signaling, ERK inhibitor U0126 (0.8 μg/ul) and ROCK inhibitor Y-27632 (0.3 μg/ul) was injected into GB34 acupuncture point before acupuncture needling, and then the expression levels of ROCK2, p-ERK and p-ERM were determined. To investigate whether local ROCK activation induced by acupuncture needling has critical role in mediating acupuncture analgesia,