Among the 22 included studies, 21 herbs were reported to reduce AD-like skin lesions in mouse models by suppressing Th2 cell responses.

**Conclusion:** By summarizing the results from the published literature, we hope that this study might aid in finding a potential herbal therapeutic agent for the treatment of AD. The limitation of this study was that a meta-analysis was not conducted because of the variety of investigated herbs included in the studies. Nevertheless, this review may assist in identifying directions for further research endeavors.

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P1.081

**Effects of Twelve Korean Combined Herbal Prescriptions with Platycodon Grandiflorum on Induction of Autophagy and Inhibition of Cell Proliferation**

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**Purpose:** In this research, we tested whether 12 Korean traditional combined herbal prescriptions including Platycodon Grandiflorum (PG) in Dong-Eui-Bo-Gam at the part of Ong-Jeo (abscesses and carbuncles) have anticancer properties through induction of autophagy.

**Methods:** Human lung adenocarcinoma A549 cells were treated with respective prescriptions and the anti-proliferative potentials were measured using an MTT assay. The morphological changes were determined and the expressions of autophagy-related proteins (ATG) were investigated using an immunoblotting assay with specific antibodies.

**Results:** Our findings indicated that all of 12 prescriptions with PG showed formation of autophagic vacuoles. The expression of microtubule-associated protein 1 light chain 3 and Beclin-1, and ATG7 were significantly increased. In addition, 12 prescriptions treatments resulted in a dose-dependent inhibition to cell proliferation. Among them, Mok-Dan-Pi-Tang showed the highest activity than others.

**Conclusion:** Treatments of 12 Korean traditional combined herbal prescriptions with PG triggered autophagy and decreased cell growth of A549 lung cancer cells. Moreover, Mok-Dan-Pi-Tang which was used to treat Pyo-Ong (lung abscesses) could be the best anticancer candidate in lung cancer therapy [NRF (No. 2013R1A1A2065537)].

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P1.082

**Monitoring of Hippocampal NFκB activity using Lentiviral-based reporter system**

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**Purpose:** The creation of molecular tools able to unravel in vivo spatiotemporal activation of cell signalling is of significant importance for the systemic study of complementary therapies in medicine. Particularly, NFκB signalling have been known to play a therapeutic role in many natural products including antioxidants for mental health, but its in vivo mechanism remains incompletely understood.

**Methods:** Here using bioluminescence imaging (BLI) technique, we describe the generation, validation and applications of a lentiviral-based luciferase reporter system for the in vivo NFκB signalling, named NFκB biosensor.

**Results:** The biosensor shows sensitive and selective detection as demonstrated by that TNF-α activated NFκB pathway activity in a dose-dependent manner, which was blocked by pyrrolidine dithiocarbamate (a specific NFκB inhibitor) in hippocampal neuronal cultures. Lithium as an alternative medicine for bipolar disorder also activated NFκB signalling via NFκB nucleus translocalization, providing an initial evidence that therapeutic action of lithium is involved in the modulation of NFκB signalling. We finally show that the sensor allows for monitoring of increased NFκB activity by lithium treatment in the hippocampal DG region of living mice.

**Conclusion:** By virtue of the unique functional characteristics of BLI, the biosensor provides an enormous potential high-throughput screening of therapeutic drugs and complementary therapies targeted to NFκB signalling.

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P1.084

**Antioxidant effects of acupuncture in morphine plus acetaminophen injured rat liver**

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**Purpose:** Morphine (MP) and acetaminophen (APAP), a world widely-used pain reliever and antipyretic, are known to induce hepatotoxicity. Acupuncture has been used for diverse effects including detoxification in Asia. In this study, the possi-
bilities whether acupuncture exerts hepatoprotective function were investigated using MP+APAP-induced hepatic damage model.

**Methods:** Rats received chronic morphine and withdrawal. Acetaminophen was given and 12 h after, blood and liver were taken. Acupuncture was performed once a day across all experiment. Asparte aminotransferase (AST) and alanine aminotransferase (ALT) levels were observed, and percentages of abnormally decreased hepatocyte regions, mean liver cell counts, and mean inflammatory cell numbers infiltrated on hepatic parenchyma were examined. In addition, antioxidant effects were evaluated based on liver lipid peroxidation malondialdehyde (MDA) and glutathione (GSH) contents, superoxide dismutase (SOD) and catalase (CAT) activities with the number of immunopositive hepatocytes against nitrotyrosine (NT) as marker of inducible nitric oxide synthase (iNOS) related- oxidative stresses and 4-hydroxynonenal (4HNE) as marker of lipid peroxidation.

**Results:** Significant elevations of AST and ALT were noticed by MP or APAP, and they also showed increases of MDA contents as well as decreases in GSH levels and activities of SOD and CAT. Also, centrolobular decreases of hepatocytes along with degenerative changes of hepatocytes were observed at histopathological analysis, and increases of NT and 4HNE immunoreactive hepatocytes were shown. These hepatocellular damages resulted more severely from the treatment of MP+APAP. However, these MP+APAP-induced hepatic damages were significantly inhibited by acupunctures at SI5, ST36, and HT7, but not at LI5.

**Conclusion:** Results suggest that acupunctures on the specific acupoints have hepatoprotective effects on the MP+APAP-induced hepatic damages through elevations of hepatic antioxidant defense systems.

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P1.085

Acupuncture Suppresses Morphine Craving in Progressive Ratio through GABA system

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**Purpose:** Previous studies revealed that acupuncture suppresses morphine self-administration as well as morphine-seeking behavior after abstinence. Based on these results, this study examined whether acupuncture attenuates morphine-craving under a progressive ratio (PR) schedule, and investigated the possible neuronal mechanism.

**Methods:** Male Sprague-Dawley rats were trained to self-administer morphine (0.5 mg/kg) under a fixed ratio for 9 days, and rats who achieved stable infusion were switched to PR. When animals had taken no more morphine for 1 h, the number of infusions was defined as break point (BP). After PR training, animals that established stable BP received acupuncture the next day. Acupuncture was applied for 1 min immediately before the test session. Bicuculline (1.0 mg/kg) and SCH 50911 (2.0 mg/kg) were given 30 min prior to acupuncture the next day. Acupuncture was applied for 1 min immediately before the test session. Bicuculline (1.0 mg/kg) and SCH 50911 (2.0 mg/kg) were given 30 min prior to acupuncture. The c-Fos was examined in the ventral tegmental area (VTA) and nucleus accumbens (NAc).

**Results:** Acupuncture at SI5, reduced the BP significantly. In addition, the effects of acupuncture were blocked by either bicuculline or SCH 50911. Immunofluorescence revealed that acupuncture at SI5 decreased c-Fos expression in the VTA and NAc.

**Conclusion:** Results of this study demonstrate that acupuncture at SI5 is effective for the treatment of morphine-craving, and that this effect is mediated via GABA pathway.

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P1.086

A possible mechanism of action for the placebo response: human biofield activation via therapeutic ritual

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**Purpose:** The purpose of the paper is to explore the relationship between placebo response, therapeutic ritual as investigated by the scientific community, and the biofield theory, with intention of elucidating important aspects of natural healing mechanisms.

**Methods:** Method of investigation is cross-fertilization of recently published studies in these three diverse fields of study, for example placebo research from the Harvard Medical School’s Program in Placebo Studies, biofield research from the Samueli Institute, and diverse empirical research studies of traditional medicine. Lenses of inquiry are used to explore placebo response as indicative of an undiscovered healing mechanism. The theoretical hypothesis of the biofield is considered both from the approach of a possible role in healing, as well as a structural model for investigating mechanisms of interpersonal and interpersonal communication pathways here-to-for unexplained in current research. Evidence of therapeutic benefits from ritual healing is examined, along with recent research and theorizing of mechanisms of action across cultures and procedures.

**Results:** Results show indications that the perspectives of placebo research, therapeutic ritual healing studies, and boiled theory bring the diverse angles of inquiry into increased understanding of natural healing mechanisms.

**Conclusion:** The conclusion is that the natural healing mechanisms can be explored more completely through comparing different lenses within medical, biophysics, psychological, anthropological and psych-spiritual scientific inquiry. The biofield theory yields a fertile area of future research to explore the evidence being developed in examining healing mechanisms uncovered through closer attention to the placebo response and wider investigation of tra-