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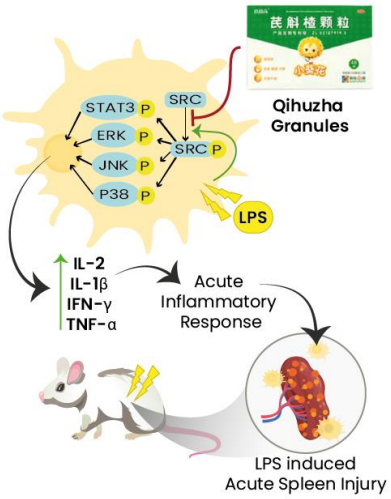
Editor's Choice

Editor's Selection of the Important Research Investigations in the Field of Phytopharmacological Communications from Around the World

Editorial Staff

Qihuzha Granule Attenuate Acute Spleen Injury in Mice (doi.org/10.55627/ppc.001.001.0062)

For children that suffer from indigestion and anorexia due to stomach and spleen deficiencies, a cocktail of 11 edible medicinal plants called Qihuzha granule (QHZG) is a patented Chinese medicine. Moreover, QHZG boasts therapeutic activity in children suffering from recurrent respiratory tract infections. However, the mechanism of action at the molecular level remains elusive. Zhong and colleagues investigated the further potential therapeutic effects and elucidated the possible mechanism of action of QHZG on lipopolysaccharide (LPS) induced spleen injury.

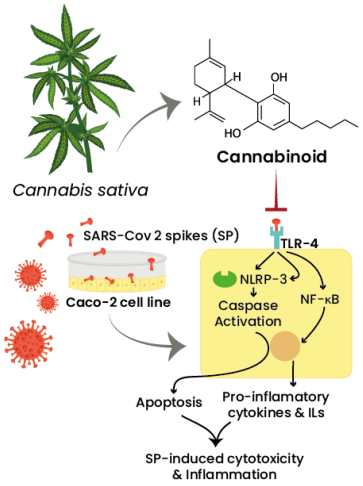


Cytokines, including interleukin-2 (IL-2), IFN-γ, and tumor necrosis factor-α (TNF-α) IL-1β, were drastically reduced as a result of the pretreatment with QHZG. Histological evaluation and immunofluorescence revealed protection to the spleen by QHZG in mice models with LPS-induced acute spleen injury. Src phosphorylation was also significantly inhibited by OHZG pretreatment. Phosphorylation of downstream signaling (P38JNK, ERK, STAT3) was also mitigated, pointing toward the Src/MAPK/STAT3-dependent inhibitory effects of QHZG on spleen injury in mice. The authors argue that QHZG can serve as a potential new drug for treating LPS-induced acute spleen injury via inhibition of Src/MAPK, Stat3 signaling mechanism. ***J Ethnopharmacol***. 2021 Dec 5;281:114458.

SARS-COV-2 Inhibition by Cannabidiol (doi.org/10.55627/ppc.001.001.0061)

Besides lungs, intestines possess a high density of the Angiotensin-Converting Enzyme (ACE-2) receptors and therefore, serve as a favorable site for SAR-CoV2 replication. In light of its anti-inflammatory and immunomodulatory potential exhibited in the lungs, Cannabidiol (CBD) has been suggested as a potential agent for managing Covid-19 infections. In an in vitro study, using Caco-2 cells, Corpetti and colleagues investigated the efficacy of CBD against hyperinflammatory

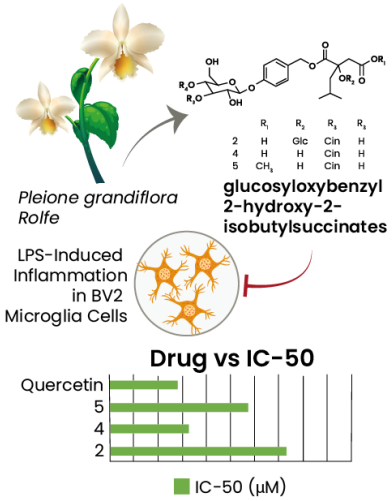
responses and epithelial cell damage induced by the SARS-CoV2 spike protein. Their results revealed a PPAR-γ-dependent decrease in toxicity. Toll-like receptor 4 (TLR-4), ACE-2, inflammasome complex (NLRP3), and Caspase-1, family members of Ras homologs A-GTPase (RhoA-GTPase) were markedly decreased by the use of CBD.



Enzyme-linked immunosorbent assay (ELISA) showed parallel inhibition of tumor necrosis factor-alpha (TNF-α), IL-18, interleukin 1 beta (IL-1β), and IL-6. An enhanced tight-junction protein expression along with restoration of transepithelial electrical resistance (TEER) was seen with CBD treatment. Henceforth, CBD has shown a strong *in vitro* inhibition of enterotoxicity induced by spike protein. ***Phytother Res***. 2021 Dec;35(12):6893-6903.

Discovery of Anti-inflammatory Compounds from Pleione Grandiflora (doi.org/10.55627/ppc.001.001.0060)

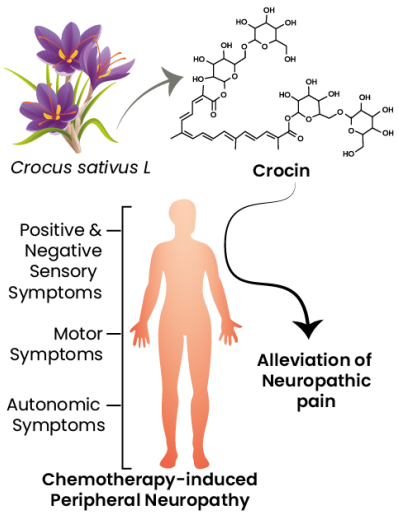
An investigation of the pseudobulbs of *Pleione grandiflora* (Rolfe) yielded several new glucosyloxybenzyl 2-hydroxy-2-isobutylsuccinates, pleionesides. Acidic and Alkaline hydrolysis experiments alongside analytical techniques, namely NMR and HRESIMS were used to determine the structure and configuration of these novel phytocompounds.



These compounds were subjected to LPS-induced BV2 microglia for potential anti-inflammatory effect. Results showed that 3 of these compounds possess moderate activity compared with quercetin used as a positive control. *Fitoterapia*. 2021 Nov;155:105062.

Peripheral Neuropathy Patients and the Effectiveness of Crocin of Saffron (Crocus Sativus L.) (doi.org/10.55627/ppc.001.001.0059)

Cancer patients treated with chemotherapeutic drugs often suffer from Chemotherapy-induced peripheral neuropathy (CIPN). In animal models, peripheral neuropathy has been diminished by the use of Saffron. A previous clinical trial has demonstrated that Saffron has the ability to relieve pain in patients suffering from fibromyalgia. Bozorgi and colleagues have, for the very first time, studied the potential analgesic properties of an important constituent of Saffron- Crocin. Between December 2018 and March 2020, a total of 177 eligible patients suffering from mild to moderate CIPN for at least a month were recruited for the trial. The patients were categorized into two main groups: Placebo tablet and Crocin 15 mg tablet twice a day for a duration of 8 weeks.

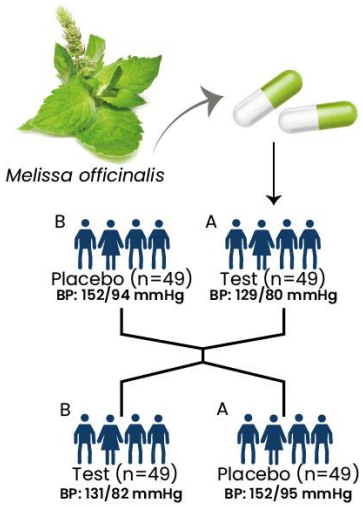


A crossover study design with a washout period of 2 weeks was adopted. Their study revealed that a significant decline in neuropathic, sensory, and motor pain was observed in the Crocin group vs. the placebo group. Only mild toxicity and no significant difference in adverse effects were seen between the two groups. The authors argue that Crocin does have the ability to substantially reduced CIPN in cancer patients undergoing chemotherapy. Nonetheless, the authors also suggest further investigations, especially compared to Lamotrigine, gabapentin, and antidepressants. ***J Ethnopharmacol.*** 2021 Dec 5;281:114511.

Melissa Officinalis and Essential Hypertension (doi.org/10.55627/ppc.001.001.0058**)**

For long plants and herbs have been used to treat cardiovascular diseases, and *Melissa officinalis* (*M. officinalis*) Is one of those plants. However, there is no conclusive evidence for the effects of the plant on both systolic and diastolic blood pressures in hypertensive patients.

Shekarriz and colleagues performed a double-blind crossover clinical trial with 49 hypertensive patients given either placebo or capsules of the plant (400mg/d) thrice a day for a week. The blood pressure was measured at baseline once and then biweekly for 2.5 months. Their findings revealed that both systolic and diastolic blood pressures were reduced in patients given *M. officinalis* compared to the placebo.



Moreover, no drastic adverse effects were observed. Hence, they conclude that in patients with primary hypertension, both systolic and diastolic blood pressures can be significantly decreased by *M. officinalis*. ***Phytother Res***. 2021 Dec;35(12):6883-6892.

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