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- 115-124 Anxiolytic and antidepressant-like effects of Garum Armoricum® (GA), a blue ling fish protein autolysate in male wistar rats
Michaël Messaoudi, Amine Nejdi, Jean-François Bisson, Pascale Rozan, Hervé Javelot and Robert Lalonde

ABSTRACT: *The anxiolytic- and antidepressant-like effects of Garum Armoricum® (GA), a protein autolysate from the blue ling fish, were studied in male Wistar rats using the conditioned defensive burying (CDB) and the forced swimming (FST) tests, respectively. In the CDB, all doses of GA (25, 50 and 100 mg/kg, PO) decreased the global score of anxiety and the latency of the first approach towards*

the probe after shock, in a similar way to diazepam (DZP) at the dose of 3 mg/kg, PO. But unlike DZP, the latency before touching again the probe after shock was not significantly reduced by GA. In the FST, the two higher doses of GA (15 and 45 mg/kg, PO) reduced immobility time in a similar way to imipramine (IMI) at the dose of 20 mg/kg, PO. But unlike IMI, GA did not reduce open-field activity and, unlike DZP, did not cause a place preference to develop. These results indicate the potential anxiolytic- and antidepressant-like properties of GA in the absence of any change in cerebral activation and dependence. These psychotropic properties of GA may be due to the synergistic action of its active constituents.

Current Topics in Nutraceutical Research 6 (3): 125-130

125-130 Aqueous extract of date fruit protects cal neurons against Oxidative injury: an ultrastructural study
Panahi Marzieh, Asadi-Shekaari Majid, Kalantari-Pour Taj Pari and Safavi Ali

ABSTRACT: *Stroke is a leading cause of mortality and morbidity in many countries. Aqueous Extract of Date Fruit (AEDF) is a potent antioxidant agent that could protect hippocampal neurons against oxidative injury. To determine whether the protected neurons by AEDF have a normal ultrastructure, hippocampal CA1 neurons were examined by electron microscopy. Male NMRI rats were fed with dose of AEDF (250 mg/kg) through stomach intubation for 2 weeks. The right middle cerebral artery was ligated for 30 min followed by 48h reperfusion. The animals were anesthetized, and their brains removed, processed and examined under a transmission electron microscope. Ischemic necrotic changes were observed in rats not pre-treated with AEDF, but pyramidal neurons ultrastructure appeared normal in rats that pre-treated with AEDF. Pretreatment of AEDF had a neuroprotective effect in ischemic brain. Antioxidant property is one of the major profiles of AEDF that is implicated in brain protection*

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131-144 Effect of dietary phytate and microbial phytase on mineral and trace Element bioavailability - a literature review
Gerald Rimbach, Josef Pallauf, Jennifer Moehring, Klaus Kraemer and Anne Marie Minihane

ABSTRACT: *Phytic acid (PA) is the main phosphorus storage compound in cereals, legumes and oil seeds. In human populations where phytate-rich cereals such as wheat, maize and rice are a staple food, phytate may lead to mineral and trace element deficiency. Zinc appears to be the trace element whose bioavailability is most influenced by PA. Furthermore, several studies in humans as well as in monogastric animals clearly indicate an inhibition of non-haem iron absorption at marginal iron supply due to phytic acid. In fact PA seems to be, at least partly, responsible for the low absorption efficiency and high incidence of iron deficiency anaemia evident in most developing countries, where largely vegetarian diets are consumed. Microbial phytases have provided a realistic means of improving mineral availability from traditionally high-phytate diets. In fact it has been consistently shown that Aspergillus phytases significantly enhance the absorption of calcium, magnesium and zinc in pigs and rats. Furthermore there are a few studies in humans indicating an improvement of iron bioavailability due to microbial phytase.*

Current Topics in Nutraceutical Research 6 (3): 145-148

- 145-148 The effects of a new Kampo formula, Hogen-ou, on psychological distress and low-grade inflammation - a placebo-controlled double-blind study
Miho Itomura, Yoshihiro Terashima, Kei Hamazaki, Katsuji Inoue, Nao Shirato, Naotoshi Shibahara and Tomohito Hamazaki

ABSTRACT: *We manufactured a new kampo formula, Hogen-ou (HGO), a combination of Hogento (Baoyuantang in Chinese) and Bezoar bovis, expecting that HGO might be able to control stress. Apparently healthy volunteers were allocated either to the active (the HGO group, n=22) or to the placebo group (n=25) in a double-blind manner. Subjects in the HGO group took 3g of HGO per day for 12 weeks; those in the placebo group took indistinguishable placebo. At weeks 0 (the start of the study), 4, 8, 12 (the end of the study), the 30- item version of the General Health Questionnaire (GHQ-30) was administered. Blood samples were also collected. Blood chemistry including high-sensitivity C-reactive protein (hs-CRP) was assessed; blood cells were counted. There were no changes in GHQ-30 between two groups. No changes were detected in blood chemistry either. However, leukocyte counts were significantly lowered in the HGO group compared with the placebo group. We suggest that HGO had anti-inflammatory effects on low-grade inflammation in apparently healthy subjects.*

Current Topics in Nutraceutical Research 6 (3): 149-158

- 149-158 Neuroprotective effect and reactive oxygen species scavenging capacity of Mangosteen pericarp extract in cultured neurons
Silvia Guzmán-Beltrán, Marisol Orozco-Ibarra, Octavio González-Cuahutencos, Sonia Victoria-Mares, Giovanna Merchand-Reyes, Omar N Medina-Campos and José Pedraza-Chaverri

ABSTRACT: *The pericarp of mangosteen (Garcinia mangostana L.) (GML) has been used in traditional medicine for the treatment of different illnesses. The potential protective effect of GML pericarp extract and of a commercial mangosteen juice against 3-nitropropionic acid (3-NP)-induced neurotoxicity and reactive oxygen species (ROS) production in cultured cerebellar granule neurons (CGNs) as well their in vitro ROS and reactive nitrogen species (RNS) scavenging capacity were studied in the present paper. The extract and the juice were able to ameliorate 3-NP induced cytotoxicity that was closely associated to the decrease in 3-NP induced ROS production in CGNs. The extract and the juice scavenged in a concentration-dependent way superoxide anion, hydroxyl radical, hypochlorous acid, and peroxynitrite. The extract also scavenged singlet oxygen. It is concluded that the antioxidant properties of both GML pericarp extract and mangosteen juice are involved in the neuroprotective effect against 3-NP in CGNs.*