

HUMIC ACID

Human Health

Humic Substances—Compounds of Still Unknown Structure: Applications in Agriculture, Industry, Environment, and Biomedicine

E. M. Pena-Mendez, J. Havel, and J. Patocka
J. Appl. Biomed. **2005**, 3, 2-12

A review. Humic substances as part of humus-soil organic matter are compounds arising from the physical, chemical, and microbiological transformation (humification) of biomolecules. They are important because they constitute the most ubiquitous source of non-living organic material known in nature.

Investigation of the Immunostimulatory Properties of Oxihumate

G. K. Joone, J. Dekker, et al.
Z. Naturforsch. C: J. Biosci. **2003**, 58(3/4), 263-267

Oxihumate increased the proliferative response of phytohaemagglutinin-stimulated human lymphocytes, which response was even more striking in lymphocytes from HIV-infected patients. The response is associated with an increased production of IL-2, as well as expression of the IL-2 receptor in the setting of decreased production of IL-10.

Medical Drugs from Humus Matter

I. Schepetkin, A. Khlebnikov, and B. S. Kwon
Drug Devel. Res. **2002**, 57, 140-159

A review of medicinal drugs from humus matter (such as peat, sapropel, and mumie), including Shilagen, Abana, Cystone, Diabecon D-400, EveCare, Geriforte, Lukol, Pilex, Rumlava, Tentex forte, Nefrotec, Adrenotone, Diotone, La-Tone Gold, Andro-Surge, and Solanova Libidoplex. Therapeutic extracts of humic acids are antibacterial, antitoxic, antiradical, antiulcerogenic, antiarthritic, immunomodulatory, and antiinflammatory.

Medical Aspects and Applications of Humic Substances

R. Kloecking and B. Helbig
Biopolymers **2001**, 1, 379-392

Humic substances (HS) comprise one of the largest reservoirs of carbon in nature. This review focuses on the medical and veterinary-medical applications of

HS, followed by a discussion of several aspects of environmental health.

Healthfood Additive

Slimming Ice Cream Preparation

X. Qi
CN 101,069,556 (November, 2007)

The title substance is comprised in part of 2-50 ppm w/w humic acid. In addition to slimming it also improves immunity without toxic or side effects.

Health Beverage Containing Humic Acid and the Application of Humic Acid in Beverages

N. Liu and J. Wang
CN 1,568,827 (January, 2005).

The title humic acid beverage includes concoction-type, soda-type, fruit juice type, and active milk type products. It contains humic acid and base material in the ratio of 40-60 to 100 parts by weight. It has the effects of promoting health and immunization, and preventing viral infection.

Drug Synergy

Enhancement of the Dissolution and Diuretic Effect of Furosemide Through a Novel Complexation with Humic Acid Extracted from Shilajit

S. P. Agarwal, M. Aqil, and Md. K. Anwer
Asian J. Chem. **2007**, 19(6), 4711-4718

Furosemide, a thiazide diuretic, exhibits extremely low aqueous solubility. Solid complexes of furosemide with humic acid showed significant improvement in release rate. The optimized complex (1:2) showed significant increase in diuresis in male Wistar rats. This study thus confirms that humic acid has the potential to increase the bioavailability of low bioavailable drugs.