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TITLE

Plant metabolites as the promising delivery systems for poorly soluble drugs

Mikhail V. Khvostov,
Tatjana G. Tolstikova,
Arkadiy O. Bryzgalov,
Genrikh A. Tolstikov,
Alexander V. Dushkin

Laboratory of Pharmacological Research N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry of the Siberian Branch of the RAS, 630090, Russia

Institute of Solid State Chemistry and Mechanochemistry of the Siberian Branch of the RAS, 630090, Russia

In the modern pharmacology a problem of low water solubility and toxicity of drugs solve by different ways. Our approach is based on clathration, i.e. synthesis of supramolecular complexes, of known poorly soluble drugs with plant metabolites such as glycyrrhizic acid (a glycoside from licorice roots), arabinogalactan (a polysaccharide from Larix Sibirica), stevioside and rebaudioside (both are metabolites of Stevia rebaudiana). We have investigated numerous clatharates with different drugs (fluoxetin, phenibut, medazepam, warfarin, nifedipine, propranolol, amiodaron, simvastatin, indometacin, diclofenac, ibuprofen, acetylsalicylic acid et al.) and demonstrate that the formation of clathrate increases water solubility (up to 50 times), improves bioavailability, reduces toxicity and often activates new properties of original drug. In some cases an effective dose could be significantly reduced (up to 100 times). Also, benefits of this method are abundance of plants mentioned above and simple synthesis. Thereby, we suggest inexpensive way to develop new low-toxic water soluble drugs.

Biography

Dr. Mikhail V. Khvostov received his Ph.D. in the pharmacology at the age of 26 years from the N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry of the Siberian Branch of RAS. Hi is a scientist in the Laboratory of Pharmacological Researches of the N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry of the SB of RAS. He has published more than 20 papers in reputed journals and is a co-author of one book.