

## Isolation of Biologically Active Compounds from Larch Wood

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One of the most important constituent part of project of complex waste-free processing of larch wood is the extraction of biologically active compounds from wood. The wood of two species of larch (*Larix sibirica* Ledeb. and *L. gmelinii* (Rupr.) Rupr.), which are widely distributed all over Siberia, is rich by its content of polysaccharide arabinogalactan (AG) and bioflavonoid dihydroquercetin (DQ).

The content of AG reaches 15-20% in wood. It is valuable nature compound has wide set of the useful properties. Biological activity of this compound has especial value. According to the latest data AG has gastro- and hepato-protective activity, also shows high immunostimulatory properties.

Up to 3,5% of flavonoids is contained in larch wood. They are mainly represented by dihydroquercetin - 3,3',4',5,7-pentahydroxyflavanon (up to 85% of the all flavonoids) and trace amounts of dihydrokaempferol and naringenin, which are biogenetic precursors DQ. This content of extract compounds provides the potential opportunity of creation of monocomponent phytopreparation Diquertin.

We propose new method of DQ purifying in principle. It's based on combining of distillation process and liquid extraction and will make it possible to purify DQ from resinous substances with simultaneous regeneration of organic solvent. So isolated crude product contents 80 - 85% of basic substance and then it is purified easily till the purity, which is corresponded to demands of pharmacopoeia (90-95%). Resinous substances, isolated during it are thick mass with little resinous smell. They have adhesions, bactericidals and filmogens properties, it determines spheres of their application, firstly in perfume and cosmetics industry. This resine is complex mixture of neutral diterpenoids with little admixture of resinous acids.

AG is isolated by hot water from the wood after extracting of DQ and resinous substances. The water extract has concentration of dry substances 15-16%, the content of AG reaches 95%. After precipitating by ethyl alcohol AG of high purity degree is isolated (96-98%).

Furthermore the said technology will make it possible to produce DQ and AG rapidly, in high yields, high degree of purity and conservation of all the native properties.