

## HEPATOPROTECTIVE EFFECTS OF GRAPE SEEDS POLYPHENOLCOMPLEX

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Under constant stress, environmental degradation, and poor nutrition, the liver is one of the most deprived organs in our body and it needs a serious protection. A lot of synthetic and natural compounds and preparations can provide an adequate protection which normalize different liver functions and contribute to the restoration of hepatocytes. Plant polyphenols demonstrate a wide range of pharmacological effects. A rich source of polyphenols is *Vitis vinifera*. Grape seeds are waste products of the winery and grape juice industry. These seeds contain lipids, proteins, carbohydrates, and 5-8% polyphenols depending on the variety. Polyphenols in grape seeds are mainly flavonoids, including gallic acid, the monomeric flavan-3-ols catechin, epicatechin, gallo catechin, epigallocatechin, and epicatechin 3-O-gallate, and procyanidin dimers, trimers, and more highly polymerized procyanidins. The purpose of this research was to study lipotropic action of complex polyphenolic compounds extracted from grape seeds.

The study was conducted on models of rats weighing 150-200 g, are kept in a vivarium of National University of Pharmacy. During the experiment, rats were divided into five groups. Animals from 2<sup>nd</sup> and 3<sup>rd</sup> group were kept on the high carbohydrate content diet. Animals 4<sup>th</sup> and 5<sup>th</sup> group were kept on the high fat content diet. Rats from 3<sup>rd</sup> and 5<sup>th</sup> groups received grape seeds polyphenols complex in doses 9 mg/100 g weight (in terms of polyphenols) within 21 days. After the experiment, the animals were decapitated under chlorasole-urethane anesthesia. Liver enzymes alanine aminotransferase (ALT), aspartate aminotransferase (AST),  $\gamma$ -glutamyltransferase (HHTP) and alkaline phosphatase (ALP) were routinely tested in the serum using standard sets.

It was found that the activity of ALT, AST, HHTP, ALP was significantly increased in rats kept on a high-calorie diet. Prolonged administration of grape seeds polyphenol complex significantly reduced activity of liver enzymes in the serum, indicating that the improvement of the liver in experimental animals

These data shown a general hepatoprotective activity of grape seeds polyphenol complex.