

RHUS GLABRA L. (SMOOTH SUMAC) – A PROMISING SOURCE OF MEDICINAL PLANT RAW MATERIAL

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ABSTRACT

In recent years, the global demand for preparations based on biologically active substances derived from natural plants has sharply increased. Particularly, due to the numerous side effects and allergic reactions caused by synthetic drugs, the share of phytopreparations is growing year by year. From this perspective, the scientific study of new plant raw materials in pharmacognosy, the determination of their bioactive components, and the development of standardization norms are of particular relevance.

Relevance: In recent years, the global demand for preparations based on biologically active substances derived from natural plants has sharply increased. Particularly, due to the numerous side effects and allergic reactions caused by synthetic drugs, the share of phytopreparations is growing year by year. From this perspective, the scientific study of new plant raw materials in pharmacognosy, the determination of their bioactive components, and the development of standardization norms are of particular relevance.

Objective of the study: To evaluate the biologically active compounds and pharmacological activity of *Rhus glabra* L.

Methods and approaches: The research included scientific articles, monographs, and conference materials published between 2000 and 2025. Scientific works conducted by local and foreign researchers were jointly studied, and their scientific novelty, relevance, and methodological foundation were assessed.

Results: *Rhus glabra* L. is a dioecious shrub or tree, usually reaching up to 3 meters (sometimes 4–6 meters). Young branches are smooth, glabrous (hence “glabra” — meaning bare, smooth). The stem branches grow straight and spreading. The bark is gray or light brown. Leaves are simple or compound, odd-pinnate, arranged alternately on the stem. The leaf blade contains secretory canals. Each leaf consists of 11–31 lanceolate leaflets with coarsely serrated margins and acute tips. The leaf surface is smooth, dark green on the upper side and lighter on the underside. The flowers are unisexual and bisexual, reddish-green in color, forming dense panicle inflorescences at the ends of branches. There are 5 stamens; the pistil is yellowish; the calyx consists of five fused ovate sepals. The corolla consists of five white ovate petals. The fruits are red drupes with hairs on the surface. *Rhus glabra* L. is

mainly distributed in North America, particularly in the United States and southern regions of Canada. According to literature sources, polyphenols, flavonoids, and tannins have been identified in *Rhus glabra* L. This species has been used since ancient times in various medical systems to treat diseases. In particular, its leaves have been found to improve brain function and play a certain role in treating Alzheimer's disease. Abu Ali ibn Sina (Avicenna) used preparations made from *Rhus glabra* L. to treat intestinal ulcers, ear pain, facial nerve paralysis, to enhance the function of digestive organs, diarrhea, to stop bleeding, diabetes, and other ailments. *Rhus glabra* L. has antioxidant, anti-inflammatory, antiviral, and antimicrobial effects.

Conclusions: As a result of the conducted research, the biologically active substances in *Rhus glabra* L. were studied based on literature sources. It was determined that *Rhus glabra* L. is rich in biologically active compounds, and it is advisable to apply it to scientific medicine in the future.

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