OUR Hero Ingredient

PROPOLIS

CHEMICAL PROPERTIES

Propolis is a natural substance produced by bees from the sap or resin of plants. It's commonly known as bee glue and is used by bees to seal cracks in their hives, sterilize the hive, and protect it from external threats like bacteria and fungi. Propolis has been used for centuries in traditional medicine due to its potential health benefits. It contains various compounds such as antioxidants, flavonoids, and phenolic acids, which have anti-inflammatory, antimicrobial, and antioxidant properties.

The properties of propolis depends on the region and plants that the bees collect resins from. Plant resin contain a wide range of secondary metabolites with the main function of protecting the plants from invading pathogens. The antimicrobial activity of plants helps them thrive and survive as they are constantly exposed to bacteria, fungi and viruses in the environment. Bees look for different resinous substances with antimicrobial activities in order to protect their hive.

Propolis is reported to have anti-inflammatory, antioxidant, antibacterial and antifungal properties.

Our Propolis extract is Propolis that has been refined and micronised, with a tested flavonoid percentage of 20%. It is collected mainly from the Poplar species of trees, such as Pinus sp. or Pine trees and have a rich composition of pinocembrin, galangin, chrysin, caffeic and ferulic acid. Poplar-type propolis have about 50% resin, 30% beeswax, 10% aromatic oils, 5% pollen and 5% other substances (minerals, vitamins and amino acids). Propolis volatiles such as monoterpenes and sesquiterpenes are responsible for the aroma and smell of the product.

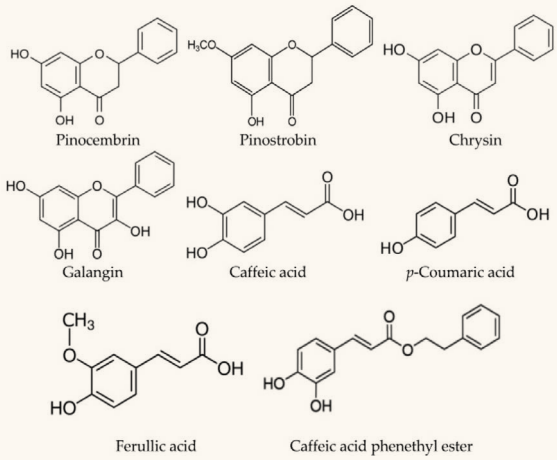

Figure 1. Chemical structures of the most important polyphenolic compounds of Populus bud extracts. Plant Sources Responsible for the Chemical Composition and Main Bioactive Properties of Poplar-Type Propolis

Daniel Severus Dezmirean et al. Plants (Basel). 2020.

COMPARISON OF PROPOLIS TYPES

PROPOLIS TYPES	GEOGRAPHICAL ORIGIN	BOTANICAL ORIGIN	MAIN COMPOUNDS	PROPERTIES
Brown Propolis *(used by DermGen®)*	Europe, North America, non-tropical regions in Asia	Mainly poplar: Populus spp., mostly P. nigra L.	Polyphenols (flavonoids, phenols and their esters). *Tested to have 20% flavonoids*	Antibacterial, antinflammatory, antitumor, antioxidant, hepatoprotective (protect the liver) activities
Green Propolis	Brazil (tropical regions)	Baccaris spp., mainly B. dracunculifolia DC.	Prenylated p-coumaric acids, diterpenes acids, flavonoids	Antibacterial, antitumor, antioxidant, hepatoprotective (protect the liver) activities
Red Propolis	Cuba, Venezuela	Clusia spp.	Prenylated benzophenones, flavonoids, isoflavones, isoflavanes	
	Cuba, Brazil, Mexico	Dalbergia ecastophyllum	Prenylated benzophenones, flavonoids, isoflavones, isoflavanes	Antibacterial, antitumor, antioxidant activities