

# A Systematic Review on the Sambuci Fructus Effect and Efficacy Profiles

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## Abstract

The berries of European elder are used in traditional German medicine for various complaints. Due to insufficient research data, elderberry fruit was not monographed by the German Commission E at the end of the last century. A comprehensive review of the literature was conducted to summarize the pharmacological and clinical effects of elderberry fruit. Several databases and other sources were searched to identify in vitro and animal studies, and clinical trials investigating elderberry fruit preparations. For the latter, the level of evidence was evaluated as described previously. Elderberry fruit preparations may provide antioxidant, antiviral and antiproliferative effects in vitro. One animal experiment and one clinical trial were able to back the antioxidative impact in terms of a weak antilipidemic effect. Antibacterial and antiinflammatory effects seem possible, but need further support. In rats, an aqueous elderberry fruit extract produced central depression and analgesia and an ethanol fruit extract improved acetic acid-induced colitis. Several in vitro studies together with two exploratory studies in humans and one open study in chimpanzees indicate that the aqueous elderberry extract Sambucol may be useful for the treatment of viral influenza infections. These promising effects of elderberry fruit preparations from experimental and clinical studies should be backed by more rigorous studies before these preparations are recommended in the prevention of diseases and in treatment schedules.

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