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Berry Compound Thwarts Enzyme Linked To Cancer

Science Daily — Recent research by Agricultural Research Service (ARS) scientists and cooperators has fortified the standing of **pterostilbene** (pronounced "tare-o-STILL-bean") for its health benefits, a compound found in berries such as **blueberries** and **grapes**, as a **cancer inhibitor**.

During tests employing cell fragments from mice livers, ARS chemist Agnes Rimando and colleagues in Poland found that the compound strongly suppresses a type of an enzyme that activates cancer-causing processes.

Rimando and her collaborators targeted an enzyme called cytochrome P450, which sets off a variety of compounds--known as "procarcinogens"--that can turn substances such as cigarette smoke and pesticides into cancer-causing agents.

Rimando has led numerous animal studies that focused on **pterostilbene** and its **potential benefits to human health**. This includes work showing that **pterostilbene can help lower cholesterol** and **prevent heart disease**, and that **the compound is present in a genus of shrubs that includes many types of berries, including blueberries**.

She also led studies that found that the **compound is a powerful antioxidant that shows cancer-fighting properties similar to those of resveratrol**. Indeed, pterostilbene is a **derivative of resveratrol**, a compound found in large quantities in the **skins of red grapes** that's known for its **cardiovascular** and **cancer-fighting benefits**.

Pterostilbene showed strong inhibitory activity--much more than resveratrol--against a particular form of cytochrome P450, according to Rimando. She added that the results may explain the cancer-preventive property the compound demonstrated in a mouse mammary gland culture assay.

However, Rimando cautioned that more studies are needed to explain this process, as well as the activity of other trans-resveratrol compounds.

ARS is the U.S. Department of Agriculture's chief scientific research agency.