

Review article

The Beneficial Biological Properties of Salicylic Acid

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SUMMARY

Salicylic acid is a phytochemical with beneficial effects on human well-being. Salicylic acid is a phenolic compound and is present in various plants where it has a vital role in protection against pathogenic agents. Natural sources include fruits, vegetables and spices. The most famous and defined effect of salicylic acid is prostaglandin synthesis inhibition. Salicylic acid has anti-inflammatory effects through suppression of transcription of genes for cyclooxygenase. Most of the pharmacological properties of salicylic acid can be contributed to the inhibition of prostaglandin synthesis. Also, it was discovered that salicylic acid has other *in vivo* cyclooxygenase-independent pathways. Since salicylic acid does not inhibit cyclooxygenase considerably, the anti-inflammatory effect is not a consequence of direct inhibition of cyclooxygenase activity. Because of its fundamental role, it was suggested that inhibition of nuclear factor kappa B by salicylic acid is one of the key anti-inflammatory mechanisms of action for salicylates. One of the most studied properties of salicylic acid is its antioxidative activity. Salicylic acid is a confirmed inhibitor of oxidative stress. Salicylic acid is capable of binding iron. This fact is significant for antioxidative effect of salicylic acid because iron has an important function in the course of lipid peroxidation.

Key words: salicylic acid, biological activity, phytochemicals, salicylates

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