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**Anthocyanins as inflammatory modulators and the role of the gut microbiota**

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**Abstract**

The health benefits of consuming fruits that are rich in polyphenols, especially anthocyanins, have been the focus of recent *in vitro* and *in vivo* investigations. Thus, greater attention is being directed to the reduction of the inflammatory process associated with the intestinal microbiota and the mechanism underlying these effects, because the microbiota has been closely associated with the metabolism of these compounds in the gastrointestinal tract. Further interest lies in the ability of these metabolites to modulate the growth of specific intestinal bacteria.

Thus, this review examines studies involving the action of the anthocyanins that are present in many fruits and their effect in the modulating the inflammatory process associated with the interaction between the host and the gut microbiota. The findings of both *in vitro* and *in vivo* studies suggest a potential anti-inflammatory effect of these compounds, which seem to inhibit activation of the signaling pathway mediated by the transcription factor NFκB. This effect is associated with modulation of a beneficial gut microbiota, particularly an increase in *Bifidobacterium* strains.

**Keywords: Anthocyanin; Inflammation; NFκB; Microbiota; *Bifidobacterium*.**

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