

Ingredient Spotlight: Cranberry

What is Cranberry?

Most of us are very familiar with cranberries, which come from a small evergreen shrub grown in bogs or wet areas. Red berry, the fruit of this shrub is a rich source of bioflavonoids especially A-type proanthocyanidins (AC-PAC). The proanthocyanidins found in cranberry are different from other fruits and this uncommon structure with an abundance of epicatechin moieties has been shown to support the host immune system as well as discourage bacterial colonization.

What is the Mechanism of Action?

- **Inhibit inflammatory mediators:** Several studies have shown that the [bioflavonoids in cranberry](#) can help decrease the production and activity of proteolytic enzymes as well as inhibition of inflammatory mediators including NF kappa B as well as tissue cytokines. (1) Another mediator, [MMP's \(Matrix metalloproteinases\)](#) are produced by host immune cells in response to periodontal pathogens and contribute to the destruction of periodontal tissue. (2) By mediating a decrease in the host response, inflammation is also abated.
- **Balance native immune response:** Additionally, [AC-PAC](#) reduce production of Interleukins-6 and -8 as well as PGE. By balancing the host immune system, there is less destruction of periodontal tissues that can lead to oral health conditions. (3)
- **Inhibit bacterial adhesion:** [Porphyromonas gingivalis](#) is one of the primary bacteria in the mouths of both dogs and cats that contributes to oral health conditions. (4,5) Cranberry has been shown to bind with pathogens so that it cannot attach to the gingival tissue.
- **Inhibit production of biofilm:** The production of biofilms allows bacteria to evade the natural defenses in the mouth. (5) *P. gingivalis* is known to produce a biofilm which allows it to colonize and be protected within the oral environment, but its production is inhibited by cranberry's polyphenols.

Adverse effects: Cranberry extract has GRAS status (generally recognized as safe). Uncommon reports of GI disturbance and exacerbation of uric acid uroliths, and increases in blood glucose have occurred.

Potential drug interactions: amitriptyline, diazepam, glipizide, piroxicam warfarin, ketoconazole, itraconazole fexofenadine. If you have concerns about using this supplement with these medications, please contact VetriScience® for technical assistance.

Products that utilize this ingredient include: Perio Support Pro, Perio Plus Stix, Feline Furball Pro, Mobility Flex, UT Stat, UT Strength Feline, UT Strength Pro

References:

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3. Gulati M, An and V, Govila V, Jain N. Host modulation therapy: An indispensable part of perioceutics. *J Indian Soc Periodontol.* 2014;18(3):282-288. doi:10.4103/0972-124X.134559
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