

Taxifolin BC-DHQ®

Dihydroquercetin (DHQ) for Immune Support



Immune health will remain a top priority for consumers, with 64% of global consumers looking to improve their immunity over the next 12 months.¹ In the same 2020 study, 76% of global consumers associate poor immunity with long-term health problems.¹

With a growing demand for dietary supplements that support immunity, Taxifolin BC-DHQ® may be an ingredient to watch due to its promising antioxidant and anti-inflammatory properties.*

Dihydroquercetin (DHQ), also known as taxifolin, is a flavonoid commonly found in a variety of foods, including apples, olive oil and red onions, as well as the heartwood of trees such as the larch tree (*Larix gmelinii*). As a flavonoid, taxifolin possesses powerful antioxidant and anti-inflammatory properties that may support immune health. Emerging science suggests that it works by neutralizing free radicals in the body with a healthy inflammatory response and prevents cellular damage, thus potentially helping to support immune health.^{2,3,4,5}

- DHQ is powerful antioxidant, and a recent *in vitro* study found that DHQ has a greater antioxidant capacity when compared to vitamin C²
- A systematic research review on upper respiratory tract infections concluded that flavonoids may play an important role in supporting a healthy upper respiratory immune system⁶
- Emerging data suggests that DHQ may help support the immune system^{4,5,7} and animal studies indicate that DHQ may help the immune system fight a viral challenge^{7,8}
- Preclinical studies suggest that DHQ may support a healthy anti-inflammatory response by reducing inflammatory cytokines such as TNF-a (tumor necrosis factor alpha) and IL-6 (interleukin-6)^{2,9,10,11}

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to treat, diagnose or cure a disease.

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Preclinical Research

Immune Support

A preclinical study was conducted to assess the effect of DHQ supplementation on the immune system using cellular and humoral (i.e., outside the cells) immune markers.⁷

Design:

- 4 groups x 21 gilthead seabream each group, 14 d, doses of 0.1, 0.5, 1.0 and 0g/kg body weight DHQ/day

Outcomes:

- DHQ supplementation resulted in increased innate humoral and cellular immune parameters
- Phagocytic, complement, respiratory burst, and antiprotease activity were significantly higher for some DHQ treated doses versus the control
- Increases in serum immunoglobulin M (IgM) were observed
- Together with other studies, these results suggest that DHQ may provide immune support^{4,5,8,11}

Anti-inflammatory Support

A preclinical study was conducted to evaluate the protective effects of DHQ against acetaminophen induced hepatic cytotoxicity (APAP) via inflammation markers measured by a liver damage index in mice.⁹

Design:

- 60 male mice, 24 hr, doses of 4, 20, 40 mg/kg body weight DHQ/day were studied versus control and a 1g/kg of GSH group

Outcomes:

- Significantly decreased liver damage was observed with DHQ supplementation
- Reduced inflammatory cell infiltration and levels of inflammatory cytokines, TNF- α and IL-6
- Acetaminophen treated hepatic cells showed evidence of decreased cell death and the regulation of apoptosis-related proteins with DHQ supplementation
- Fewer areas of necrosis were observed in the DHQ treated groups

Taxifolin BC-DHQ[®] from Blue California:

- Produced using a proprietary bioconversion manufacturing process
- US FDA no objection to Notification of Self-Affirmed GRAS (GRN No. 916)
- Clean, reliable and scalable using sustainable production methods

About Us

Blue California is an entrepreneurial, science-based solutions provider and manufacturer of clean, natural, and sustainable ingredients used in food, beverage, flavor, fragrance, dietary supplements, personal care and cosmetic products. For more than 25 years, Blue California has built a strong reputation for creating value in these diverse natural product and nature-inspired industries. We are one of the few vertically integrated companies in our focus industries.

Capabilities Include

- End-to-End Concept Development
- Microencapsulation Systems
- Ideation and Consumer Insights
- Clinical Trials

Learn more at www.bluecal-ingredients.com

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