Calmodulin transports calcium ions across cell membranes, initiating numerous cellular processes, including the secretion of histamine from mast cells. Several investigators, including Taussig et al., have presented evidence that bromelain is a fibrinolytic agent, i.e., it induces the breakdown of fibrin, a plasma protein that blocks tissue drainage. The generally accepted mechanisms involve direct proteolysis of fibrinogen by bromelain and activation of plasmin, a serum protease. Plasmin acts on fibrinogen (the precursor to fibrin), forming peptides which stimulate PGE1, a prostaglandin that enges a variety of free-radicals such as hydroxyl and lipid peroxy radicals. Quercetin is a versatile and effective antioxidant that scavenges a variety of free-radicals such as hydroxyl and lipid peroxides.

Quercetin has a broad range of activity, much of which stems from its interaction with calmodulin, a calcium-regulatory protein. Calmodulin transports calcium ions across cellular membranes, initiating numerous cellular processes. Quercetin appears to act as a calmodulin antagonist. Through this mechanism, quercetin functions at the cell membrane level with a membrane-stabilizing action. Quercetin inhibits calmodulin-dependent enzymes present at cell membranes such as ATPases and phospholipase, thereby influencing membrane permeability.

Quercetin modifies the body’s response to antigenic substances. Suppression of histamine secretion from mast cells is one of quercetin’s most clinically important effects. Quercetin acts on ATPase at the membranes of histamine-containing granules in mast cells. Mast cell degranulation and subsequent release of histamine into the bloodstream is an integral part of the body’s response to environmental challenges.

Science-Based Nutrition

Quercetin-Bromelain

180 Capsules

Ingredients per capsule:
Quercetin ......................................................250 mg
Bromelain (150 G.D.U. per gram) ..........125 mg
[ Gelatin Digesting Units]
Excipients: rice powder, magnesium stearate (vegetable
source), silicon dioxide gelatin capsule.
Suggested Use: Take 1 or 2 capsules three times daily,
preferably 30 to 60 minutes before meals.

Benefits

Down-regulates the Body’s Response to Environmental Challenges

Quercetin is a member of the flavonoid family, a diverse group of low molecular weight compounds found throughout the plant kingdom. Flavonoids exhibit numerous biological activities, many of which are directly beneficial to human health. Quercetin, which belongs to the “flavonol” subgroup, is one of the most versatile and important flavonoids.

Quercetin has a broad range of activity, much of which stems from its interaction with calmodulin, a calcium-regulatory protein. Calmodulin transports calcium ions across cellular membranes, initiating numerous cellular processes. Quercetin appears to act as a calmodulin antagonist. Through this mechanism, quercetin functions at the cell membrane level with a membrane-stabilizing action.

Quercetin inhibits calmodulin-dependent enzymes present at cell membranes such as ATPases and phospholipase, thereby influencing membrane permeability.

Quercetin affects other calmodulin-dependent enzymes that control various cellular functions, including the secretion of histamine from mast cells. A number of investigations have corroborated quercetin’s ability to reduce histamine secretion from mast cells in various tissues, and also from basophils.

Quercetin modifies the body’s response to antigenic substances. Suppression of histamine secretion from mast cells is one of quercetin’s most clinically important effects. Quercetin acts on ATPase at the membranes of histamine-containing granules in mast cells. Mast cell degranulation and subsequent release of histamine into the bloodstream is an integral part of the body’s response to environmental challenges.

Quercetin is a versatile and effective antioxidant that scavenges a variety of free-radicals such as hydroxyl and lipid peroxides. Oxidized LDL cholesterol is vulnerable to oxidation by lipid peroxides. Oxidized LDL is absorbed by macrophages and arterial endothelial cells, leading to the formation of “foam cells,” and eventually plaque deposits, in arterial walls. Quercetin has been shown to protect LDL cholesterol from oxidation, both by lipid peroxides and transition metal ions.
Bromelain May Enhance Quercetin Absorption

In addition to the actions described above which support the effects of quercetin, bromelain may also assist the absorption of quercetin in the G.I. tract. (Quercetin is generally believed to be poorly absorbed, although a recent study by Hollman et al.,22 which concluded that humans do in fact absorb appreciable amounts of quercetin, contradicts this assumption.) Studies have shown that bromelain enhances absorption of antibiotics, presumably by increasing permeability of the gut wall.23,24 Given that quercetin is a low molecular-weight compound, it is plausible that simultaneously-ingested bromelain likewise enhances quercetin absorption.

*This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

Scientific References
Quercetin-Bromelain supplies the flavonoid quercetin extracted from seed pods of the Dimorphandra mollis plant. Flavonoids are “semi-essential” nutrients found in many plants and foods. Bromelain is an enzyme complex derived from the pineapple stem.

Quercetin modifies the body’s response to antigenic substances, inhibits formation of free radicals and supports circulatory health by promoting integrity of tissues in small blood vessels.* Bromelain supports tissue comfort and may enhance quercetin absorption.*

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