NANOEMULSION

DIM

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Quicksilver Scientific's nanoemulsified DIM is a highly bioavailable diindolylmethane (DIM) formula designed to support healthy estrogen metabolism, detoxification, and immune balance.* DIM is a plant compound derived from the phytochemical indole-3-carbinol found in cruciferous vegetables such as broccoli, brussels sprouts, cabbage, and kale. Each 2 mL (4 pump) serving provides 20 mg of nanoemulsified DIM using Quicksilver Delivery Systems® technology for unsurpassed absorption.

Supplement Facts

Serving Size: 2 mL (4 Pumps)
Servings Per Container: 25

	Amount Per Serving	% Daily Value
Diindolylmethane	20mg	**

****Daily Value not established**

Other Ingredients: Glycerin, water, ethanol, medium chain triglycerides, tocofersolan, highly purified phospholipids, natural mixed tocopherols

EDUCATION

PLURIPOTENT HEALTH BENEFITS

Dietary consumption of cruciferous vegetables has many positive health impacts, including the ability to reduce inflammation, enhance detoxification, and beneficially modulate epigenetic pathways linked to neoplasias.[1,2,3] Research indicates that DIM is a crucial contributor to the health benefits of cruciferous vegetables. It balances hormones, modulates the immune system, upregulates endogenous detoxification pathways, and interacts favorably with the human genome to promote whole-body health.

HORMONAL BALANCE

Diindolylmethane is a powerful ally for female hormonal health. It modulates estrogen metabolism, favoring the formation of protective 2-hydroxyestrone rather than the potently estrogenic 16-hydroxyestrone.[4] In patients taking tamoxifen for breast cancer, DIM has been found to induce favorable changes in estrogen metabolism.[5] DIM also supports cervical health by modulating estrogen metabolism and helps maintain normal cervical epithelial cell morphology during exposure to HPV.[6,7] DIM also helps the body's sensitivity to insulin, a peptide hormone that regulates blood sugar.[8]

BALANCES STIMULATORY AND ANTI-INFLAMMATORY IMMUNE ACTIVITY

DIM balances the stimulatory and anti-inflammatory branches of the immune system, helping the immune system maintain a state of dynamic balance. DIM stimulates the production of IFN-γ, a cytokine that inhibits abnormal cell proliferation and targets harmful microbes.[10] It also upregulates the production of G-CSF, a growth factor that induces white blood cell production and IL-6, a cytokine with microbicidal properties.[11]

On the other hand, DIM suppresses unproductive inflammatory responses, such as those elicited by lipopolysaccharide (LPS), a pro-inflammatory microbial byproduct elevated in states of intestinal dysbiosis.[12] DIM also alleviates endothelial and neurological inflammation, supporting a healthy microvasculature and brain.[13,14]

UPREGULATES DETOXIFICATION

DIM is a potent inducer of the Antioxidant Response Element (ARE), a regulator of the expression of phase II drug metabolizing enzymes and phase III transporters that usher toxins out of cells and into the bile and urine for elimination.[15] DIM is a stronger ARE inducer than its precursor, indole-3-carbinol (I3C). Activation of ARE by DIM increases the expression of glutathione-S-transferases and UGT enzymes, involved in phase II detoxification, and superoxide dismutase (SOD), an antioxidant enzyme that protects cells from oxidative stress.[16]

REGULATES THE EPIGENOME

Emerging research indicates that DIM modulates the epigenome, which consists of chemical compounds and proteins that attach to DNA and can turn genes "on" and "off." In some neoplasias, Nrf2 is epigenetically downregulated and supplemental DIM has been shown to modulate this effect, suggesting that it may be useful in a variety of Nrf2 downregulated scenarios.[17]

BIOAVAILABILITY OF THE PLANT COMPOUND, DIM

When taken in traditional oral formats such as tablets and capsules, DIM is poorly absorbed and rapidly cleared from the body.[18] Liposomal delivery systems have been found to significantly enhance the bioavailability of DIM, allowing for greater therapeutic benefits.[19] Liposomal delivery systems may also prolong the time a therapeutic agent, such as DIM, is in circulation, leading to a reduced need for dosing.[20]

Quicksilver Delivery Systems® improve upon liposomal and emulsification technology with smaller, more stable particles made from the highest-grade ingredients available. In addition to exceptional absorption rates, these tiny liposomal and nanoemulsified particles increase diffusion across mucus membranes, enhance lymphatic circulation of nutrients and support cellular delivery.

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References available at quicksilverscientific.com/dimreferences

WARNING: NOT FOR USE BY INDIVIDUALS UNDER THE AGE OF 18 YEARS. DO NOT USE IF PREGNANT, BREAST-FEEDING, OR PLANNING TO BECOME PREGNANT. KEEP OUT OF REACH OF CHILDREN. Consult a healthcare professional before use if you have any medical condition or are taking any other supplements or medications. Do not exceed recommended dosage. See www.quicksilverscientific.com for additional safety information.

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