

Lycopene

A Potent Antioxidant Carotenoid

DESCRIPTION

Natural Lycopene, provided by Douglas Laboratories®, is extracted from tomato fruits. Each softgel provides 5 mg pure lycopene.

FUNCTIONS

Lycopene is a nutritionally important carotenoid that is present in selected red-colored fruits and vegetables, such as watermelon and tomato.

Lycopene is an important antioxidant nutrient that protects healthy cells from oxidative and free radical damage. Free radicals are unstable chemicals formed in the body during metabolism and from exposure to environmental sources, such as pollution and cigarette smoke. Free radicals are not inherently bad (they are necessary for energy metabolism and immune function), but when there is an excessive number of free radicals in the body, they can attack healthy cells, especially their membrane lipids and proteins. This, in turn, is thought to contribute to a number of degenerative diseases.

Like beta-carotene, lycopene is an efficient quencher of a chemically reactive species of oxygen called singlet oxygen. Singlet oxygen participates in oxidative reactions which can impair or destroy important cellular parts, such as membranes, nucleic acids (DNA), and enzymes. In addition, singlet oxygen reactions can generate free radicals which lead to further damage. Studies show that lycopene's ability to quench singlet oxygen is equal or better than that of beta-carotene.

Considerable evidence from many experimental and epidemiological studies suggest that lycopene plays a major role in maintaining normal cellular differentiation and division. This benefit is attributed mainly to its potent antioxidant properties.

Dietary lycopene is absorbed by the intestinal tract and distributed into most tissues. The highest concentrations of lycopene have been measured in testes, liver and adrenal glands. Lycopene may also play a special role in healthy prostate function.

INDICATIONS

Lycopene may be a useful dietary supplement for those who wish to increase their daily lycopene intake.

FORMULA (LYC)

Each softgel contains:

Lycopene 5mg

Other ingredients: rice bran oil, gelatin, glycerin, and purified water.

SUGGESTED USE

One to two softgels daily with meals, or as directed by a physician.

SIDE EFFECTS

No adverse side effects have been reported.

STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

Lycopene

A Potent Antioxidant Carotenoid

REFERENCES

- Beyer P, Mayer M, Kleinig H, et al. Molecular oxygen and the state of geometric isomerism of intermediates are essential in the carotene desaturation and cyclization reactions in daffodil chromoplasts. *Eur J Biochem* 1989;184(1):141-150.
- Bierer TL, Merchen NR, Erdman JW, Jr. Comparative absorption and transport of five common carotenoids in preruminant calves. *J Nutr* 1995;125:1569-1577.
- Breslow RA, Alberg AJ, Helzlsouer KJ, et al. Serological precursors of cancer: malignant melanoma, basal and squamous cell skin cancer, and prediagnostic levels of retinol, beta-carotene, lycopene, alpha-tocopherol, and selenium. *Cancer Epidemiol Biomarkers Prev* 1995;4:837-842.
- Carughi A, Hooper FG. Plasma carotenoid concentrations before and after supplementation with a carotenoid mixture. *Am J Clin Nutr* 1994;59:896-899.
- Di Mascio P, Kaiser S, Sies H. Lycopene as the most efficient biological carotenoid singlet oxygen quencher. *Arch Biochem Biophys* 1989;274:532-538.
- Franceschi S, Bidoli E, La Vecchia C, Talamini R, D'Avanzo B, Negri E. Tomatoes and risk of digestive-tract cancers. *Int J Cancer* 1994;59:181-184.
- Gerster H. Anticarcinogenic effect of common carotenoids. *Int J Vitam Nutr Res* 1993;63:93-121.
- Giovannucci E, Ascherio A, Rimm EB, et al. Intake of carotenoids and retinol in relation to risk of prostate cancer. *J Natl Cancer Inst* 1995;87:1767-1776.
- Kaplan LA, Stein EA, Willett WC, Stampfer MJ, Stryker WS. Reference ranges of retinol, tocopherols, lycopene and alpha-and beta-carotene in plasma by simultaneous high-performance liquid chromatographic analysis. *Clin Physiol Biochem* 1987;5:297-304.
- Khachik F, Beecher GR, Smith JC, Jr. Lutein, lycopene, and their oxidative metabolites in chemoprevention of cancer. *J Cell Biochem Suppl* 1995;22:236-246.
- Krinsky NI, Russett MD, Handelman GJ, Snodderly DM. Structural and geometrical isomers of carotenoids in human plasma. *J Nutr* 1990;120:1654-1662.
- Levy J, Bosin E, Feldman B, et al. Lycopene is a more potent inhibitor of human cancer cell proliferation than either alpha-carotene or beta-carotene. *Nutr Cancer* 1995;24(3):257-266.
- London SJ, Stein EA, Henderson IC, et al. Carotenoids, retinol, and vitamin E and risk of proliferative benign breast disease and breast cancer. *Cancer Causes Control* 1992;3:503-512.
- Mathews-Roth MM, Welankiwar S, Sehgal PK, Lausen NC, Russett M, Krinsky NI. Distribution of [14C]canthaxanthin and [14C]lycopene in rats and monkeys. *J Nutr* 1990;120:1205-1213.
- Nagasawa H, Mitamura T, Sakamoto S, Yamamoto K. Effects of lycopene on spontaneous mammary tumour development in SHN virgin mice. *Anticancer Res* 1995;15:1173-1178.
- Olmedilla B, Granado F, Blanco I, Rojas-Hidalgo E. Seasonal and sex-related variations in six serum carotenoids, retinol, and alpha-tocopherol. *Am J Clin Nutr* 1994;60:106-110.
- Peng Y-M, Peng Y-S, Lin Y, Moon T, Roe DJ, Ritenbaugh C. Concentrations and plasma-tissue-diet relationships of carotenoids, retinoids, and tocopherols in humans. *Nutr Cancer* 1995;23:233-246.
- Potischman N, Hoover RN, Brinton LA, et al. The relations between cervical cancer and serological markers of nutritional status. *Nutr Cancer* 1994;21:193-201.
- Ribaya-Mercado JD, Garmyn M, Gilchrest BA, Russell RM. Skin lycopene is destroyed preferentially over beta-carotene during ultraviolet irradiation in humans. *J Nutr* 1995;125:1854-1859.
- Sies H, Stahl W, Sundquist AR. Antioxidant functions of vitamins. Vitamins E and C, beta-carotene, and other carotenoids. *Ann N Y Acad Sci* 1992;669:7-20.
- Stahl W, Schwarz W, Sundquist AR, Sies H. cis-trans isomers of lycopene and beta-carotene in human serum and tissues. *Arch Biochem Biophys* 1992; 294:173-177.
- Stahl W, Sies H. Uptake of lycopene and its geometrical isomers is greater from heat-processed than from unprocessed tomato juice in humans. *J Nutr* 1992;122:2161-2166.

Lycopene A Potent Antioxidant Carotenoid

Street DA, Comstock GW, Salkeld RM, Schüep W, Klag MJ. Serum antioxidants and myocardial infarction: Are low levels of carotenoids and a-tocopherol risk factors for myocardial infarction? *Circulation* 1994;90:1154-1161.

Suarna C, Hood RL, Dean RT, Stocker R. Comparative antioxidant activity of tocotrienols and other natural lipid-soluble antioxidants in a homogeneous system, and in rat and human lipoproteins. *Biochim Biophys Acta* 1993;1166:163-170.

Tonucci LH, Holden JM, Beecher GR, Khachik F, Davis CS, Mulokozi G. Carotenoid content of thermally processed tomato-based food products. *J Agric Food Chem* 1995;43:579-586.

Yong LC, Forman MR, Beecher GR, et al. Relationship between dietary intake and plasma concentrations of carotenoids in premenopausal women: Application of the USDA-NCI carotenoid food-composition database. *Am J Clin Nutr* 1994;60:223-230.

For more information on Lycopene visit douglaslabs.com

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

Manufactured by
Douglas Laboratories
600 Boyce Road
Pittsburgh, PA 15205
800-245-4440
douglaslabs.com



**You trust Douglas Laboratories.
Your patients trust you.**

© 2013 Douglas Laboratories. All Rights Reserved