

Flax Seed Oil

Nature's richest source of alpha-linolenic acid

DESCRIPTION

Flax seed oil is nature's most concentrated source of alpha-linolenic acid (ALA), an essential omega-3 fatty acid. Douglas Laboratories' Flax Seed Oil provides 55-60% ALA, as well as significant amounts of oleic acid and the essential linoleic acid in their natural triglyceride forms. Flax Seed Oil is extracted without the damaging effects of heat, light, and oxygen using a mechanical expeller press. Using this process, the oil never is exposed to temperatures above 96° F, and it retains its natural color and contents of naturally occurring fatty acids, phosphatides, vitamins, minerals, and antioxidants. Flax Seed Oil is available as a liquid or in softgel form.

FUNCTIONS

Typical diets in developed countries deliver large amounts of saturated fatty acids and the polyunsaturated omega-6 linoleic and arachidonic acids and low levels of omega-3 fatty acids. Throughout evolution, humans were accustomed to diets providing roughly equal amounts of omega-6 and omega-3 fatty acids. However, during the last 200 years, the ratio of dietary omega-6:omega-3 fatty acids increased from about 1:1 to 20-25:1. Leading health professionals now recommend ratios between 4:1 and 10:1. A healthy balance of dietary omega-6 and omega-3 fatty acids appears to be a prerequisite for normal immune function. Dietary linoleic acid (18:2 omega-6) is a precursor to arachidonic acid (20:4) which in turn is a precursor for pro-inflammatory prostaglandin E2 and leukotriene B4, and platelet aggregating thromboxane A2. The omega-3 fatty acid ALA provides a natural counterbalance, because it is metabolized to the long chain omega-3 fatty acids EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid), which serve as precursors for the anti-inflammatory prostaglandins E1 and E3, and decrease the formation of prostaglandin E2 and thromboxane A2. Among other factors, sufficient dietary levels of ALA and other omega-3 fatty acids are also important for healthy mucous membranes, skin and hair, and serve as precursors for steroid production and hormone synthesis.

INDICATIONS

Flax Seed Oil may be a useful dietary adjunct for those who wish to supplement their diets with omega-3 fatty acids.

FORMULA (#FLX)

Each softgel contains:

Flax Seed Oil	1,000 mg
Alpha-Linolenic Acid (18:3)	550-600 mg
Other Fatty Acids (typical analysis):	
Myristic Acid (14:0)	1 mg
Myristoleic Acid (14:1).....	1 mg
Palmitic Acid (16:0)	50 mg
Palmitoleic Acid (16:1)	1 mg
Stearic Acid (18:0)	30 mg
Oleic Acid (18:1)	170-200 mg
Linoleic Acid (18:2)	120-200 mg
Arachidic Acid (20:0).....	1 mg
Icosenoic Acid (20:1)	2 mg

Nutrition Facts for Organic Flax Seed Oil softgels

Serving Size:1 softgel

Servings Per Container: 100

Calories

Calories from Fat

Flax Seed Oil
Nature’s richest source of alpha-linolenic acid

Total Fat	1 g
Saturated Fat	0 g
Monounsaturated Fat	0 g
Polyunsaturated Fat	0.5 g
Cholesterol	0 mg
Sodium	0 mg
Total Carbohydrates	0 g
Sugars	0 g
Protein	0 g

SUGGESTED USE

One to three softgels three times daily as a dietary supplement, or as directed by a physician. Take with food.

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.

REFERENCES

Allman MA, Pena MM, Pang D. Supplementation with flaxseed oil versus sunflowerseed oil in healthy young men consuming a low fat diet: effects on platelet composition and function. *Eur J Clin Nutr* 1995;49:169-178.

Bierenbaum ML, Reichstein R, Watkins TR. Reducing atherogenic risk in hyperlipemic humans with flax seed supplementation: a preliminary report. *J Am Coll Nutr* 1993;12:501-504.

Cunnane SC, Hamadeh MJ, Liede AC, Thompson LU, Wolever TM, Jenkins DJ. Nutritional attributes of traditional flaxseed in healthy young adults. *Am J Clin Nutr* 1995;61:62-68.

De Lorgeril M, Renaud S, Mamelle N, et al. Mediterranean alpha-linolenic acid-rich diet in secondary prevention of coronary heart disease. *Lancet* 1994;343:1454-1459.

Galland L. Increased requirements for essential fatty acids in atopic individuals: a review with clinical descriptions. *J Am Coll Nutr* 1995;5:213-228.

Kelley DS, Nelson GJ, Love JE, et al. Dietary alpha-linolenic acid alters tissue fatty acid composition, but not blood lipids, lipoproteins or coagulation status in humans. *Lipids* 1993;28:533-537.

Kelley DS, Branch LB, Love JE, Taylor PC, Rivera YM, Iacono JM. Dietary alpha-linolenic acid and immunocompetence in humans. *Am J Clin Nutr* 1991;53:40-46.

Mantzioris E, James MJ, Gibson RA, Cleland LG. Dietary substitution with an alpha-linolenic acid-rich vegetable oil increases eicosapentaenoic acid concentrations in tissues. *Am J Clin Nutr* 1994;59:1304-1309.

Singer P, Jaeger W, Berger I, et al. Effects of dietary oleic, linoleic and alpha-linolenic acids on blood pressure, serum lipids, lipoproteins and the formation of eicosanoid precursors in patients with mild essential hypertension. *J Hum Hypertens* 1990;4:227-233.

For more information on Flax Seed Oil 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.**