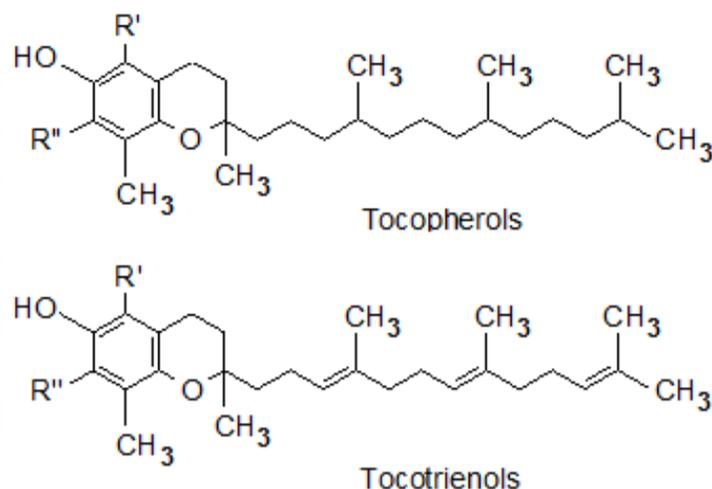




# TOCOPHEROLS TOCOTRIENOLS



$\alpha$ : R' = CH<sub>3</sub>, R'' = CH<sub>3</sub>

$\beta$ : R' = CH<sub>3</sub>, R'' = H

$\gamma$ : R' = H, R'' = CH<sub>3</sub>

$\delta$ : R' = H, R'' = H

Vitamin E is a light yellow oil, a fat soluble vitamin, that is actually a family of substances, the tocopherols and tocotrienols, collectively known as « tocols ». They are found in nature in both plant and animals, however, since they are biosynthesized only in photosynthetic organisms, main sources are vegetables and seed or nut oils. They were first isolated from wheat germ oil, which is still a commonly used source of Vitamin E.

The primary function of Vitamin E is as an antioxidant. Vitamin E is protective because it helps reduce oxidation of lipid membranes and the unsaturated fatty acids and prevents the breakdown of other nutrients by oxygen. This protective, nutritional antioxidant function is also performed and enhanced by other antioxidants, such as vitamin C, beta-carotene, glutathione (L-cysteine), and the mineral selenium.

Since the biological activities and chemical properties of substances differ from each other, it is important to be able to determine and to isolate each « tocol » separately. EXTRASYNTHÈSE has recently developed competitive processes to obtain the full collection of fully qualified analytical standards of tocols, in the natural enantiomeric form, at competitive prices, to allow precise titration work and early stage research activities.

# 2960S	(+)- $\alpha$ -Tocopherol	# 2950S	(-)- $\alpha$ -Tocotrienol
# 2961S	(+)- $\beta$ -Tocopherol	# 2951S	(-)- $\beta$ -Tocotrienol
# 2962S	(+)- $\gamma$ -Tocopherol	# 2952S	(-)- $\gamma$ -Tocotrienol
# 2963S	(+)- $\delta$ -Tocopherol	# 2953S	(-)- $\delta$ -Tocotrienol

#### Free access reviews :

- PubMed 20428030 - ML. Colombo - « An update on Vitamin E, tocopherol and tocotrienol perspectives (2010) »
- PubMed 25435896 - H. Ahsan and coll. - « Pharmacological potential of tocotrienols » (2014)
- PubMed 24704972 - Q. Jiang - « Natural forms of Vitamin E: metabolism, antioxidant and anti-inflammatory activities and the role in disease prevention and therapy » (2014)
- AOCS Lipid Library #40389 - AM. Lamps - « Analysis of Tocopherols and Tocotrienols by HPLC » (2011)

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