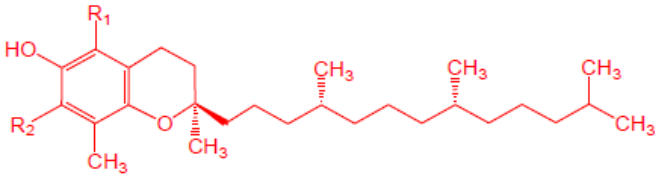
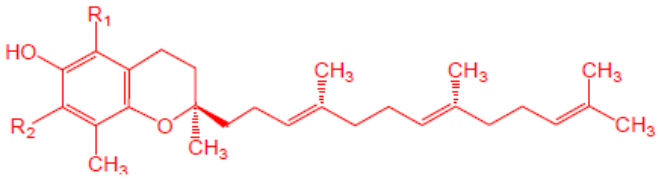
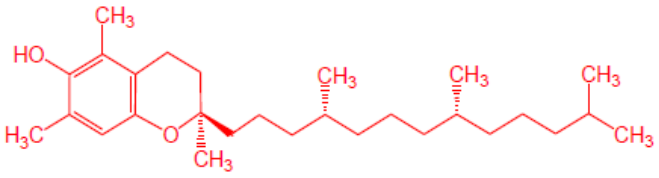
Tocotrienols:
The New Neuroprotective Vitamin E



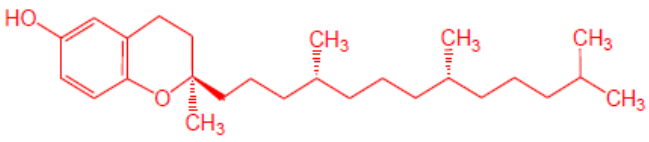
	R_1	R_2	Cat.#
α-Tocopherol	CH_3	CH_3	1072
β-Tocopherol	CH_3	H	1071
γ-Tocopherol	H	CH_3	1073
δ-Tocopherol	H	H	1790



	R_1	R_2	Cat.#
α-Tocotrienol	CH_3	CH_3	2109
β-Tocotrienol	CH_3	H	2110
γ-Tocotrienol	H	CH_3	2111
δ-Tocotrienol	H	H	2112



Catalog # 1074



Catalog # 1797

Vitamin E consists of eight major isomers: *alpha*-, *beta*-, *gamma*-, and *delta*-tocopherols and *alpha*-, *beta*-, *gamma*-, and *delta*-tocotrienols. The difference between tocopherols and tocotrienols is found in the three double bonds of the tocotrienol's isoprenoid tail. Vitamin E has a vital role in maintaining neuronal function and structure and acts as a powerful antioxidant. Orally supplemented tocopherols are known to reach the brain and now tocotrienols have been demonstrated to reach the brain as well. Almost all vitamin E supplements consist of only *alpha*-tocopherol. However, *alpha*-tocotrienol has been demonstrated to be much more potent than *alpha*-tocopherol in protecting HT4 and primary neuronal cells against toxicity induced by glutamate as well as by a number of other toxins.[1] Tocotrienol supplemented rats show more protection against stroke-induced injury compared to matched controls. Such protection is associated with lower c-Src activation and 12-Lox phosphorylation at the stroke site.[2]

Matreya offers the complete line of very high purity vitamin E isomers as well as several excellent internal standards (Cat# 1074 and Cat# 1797). Relatively little research has been done on tocotrienols as compared to tocopherols. A major reason for this has been the lack of purified tocotrienols for research. With Matreya's comprehensive line of vitamin E, all eight forms of this critical nutrient can be studied and compared.

References:
1. C. Sen et al., Ann N Y Acad Sci. 1031 (2004) 127-42
2. S. Khanna et al., Stroke 36:10 (2005) 2258–2264

Product Name	***Catalog #***	***Amount***	***Purity***
alpha-Tocotrienol	2109	25 mg	98$^+$% TLC/98$^+$% GC
beta-Tocotrienol	2110	25 mg	98$^+$% TLC/98$^+$% GC
gamma-Tocotrienol	2111	25 mg	98$^+$% TLC/98$^+$% GC
delta-Tocotrienol	2112	25 mg	98$^+$% TLC/98$^+$% GC
rac-alpha-Tocopherol	1072	50 mg	95$^+$% TLC/98$^+$% GC
rac-beta-Tocopherol	1071	50 mg	95$^+$% TLC/98$^+$% GC
rac-gamma-Tocopherol	1073	50 mg	95$^+$% TLC/98$^+$% GC
delta-Tocopherol	1790	50 mg	95$^+$% TLC/98$^+$% GC
rac-5,7-Dimethyltocol	1074	50 mg	95$^+$% TLC/98$^+$% GC
Tocol	1797	50 mg	95$^+$% TLC/98$^+$% GC