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# Alpha-Tocopherol

National Cancer Institute

## Source

National Cancer Institute. *Alpha-Tocopherol*. NCI Thesaurus. Code C74960.

The orally bioavailable alpha form of the naturally-occurring fat-soluble vitamin E, with potent antioxidant and cytoprotective activities. Upon administration, alpha-tocopherol neutralizes free radicals, thereby protecting tissues and organs from oxidative damage. Alpha-tocopherol gets incorporated into biological membranes, prevents protein oxidation and inhibits lipid peroxidation, thereby maintaining cell membrane integrity and protecting the cell against damage. In addition, alpha-tocopherol inhibits the activity of protein kinase C (PKC) and PKC-mediated pathways. Alpha-tocopherol also modulates the expression of various genes, plays a key role in neurological function, inhibits platelet aggregation and enhances vasodilation. Compared with other forms of tocopherol, alpha-tocopherol is the most biologically active form and is the form that is preferentially absorbed and retained in the body.