

Vitamin E, a fat-soluble antioxidant, exists in eight stereoisomers, with only α -tocopherol exhibiting significant bioactivity in humans. Natural d- α -tocopherol is more effective than synthetic dl- α -tocopherol. Its primary function is protecting cell membranes from free radical damage, particularly lipid peroxidation. While proposed for preventing various diseases (cancers, cardiovascular issues, etc.), high doses (400 IU or more daily) have been linked to increased mortality risk, unlike lower doses (200 IU or less). Therefore, high-dose, long-term supplementation requires caution pending further safety research.