DavosLife E3 Super Vitamin E Get to The Heart of The Matter

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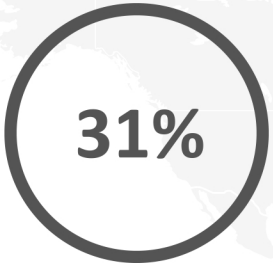
Cardiovascular Disease

The World's Number 1 Killer



All Deaths worldwide, or 17.9 Million annually[1]

Heart Attacks and Strokes[1]

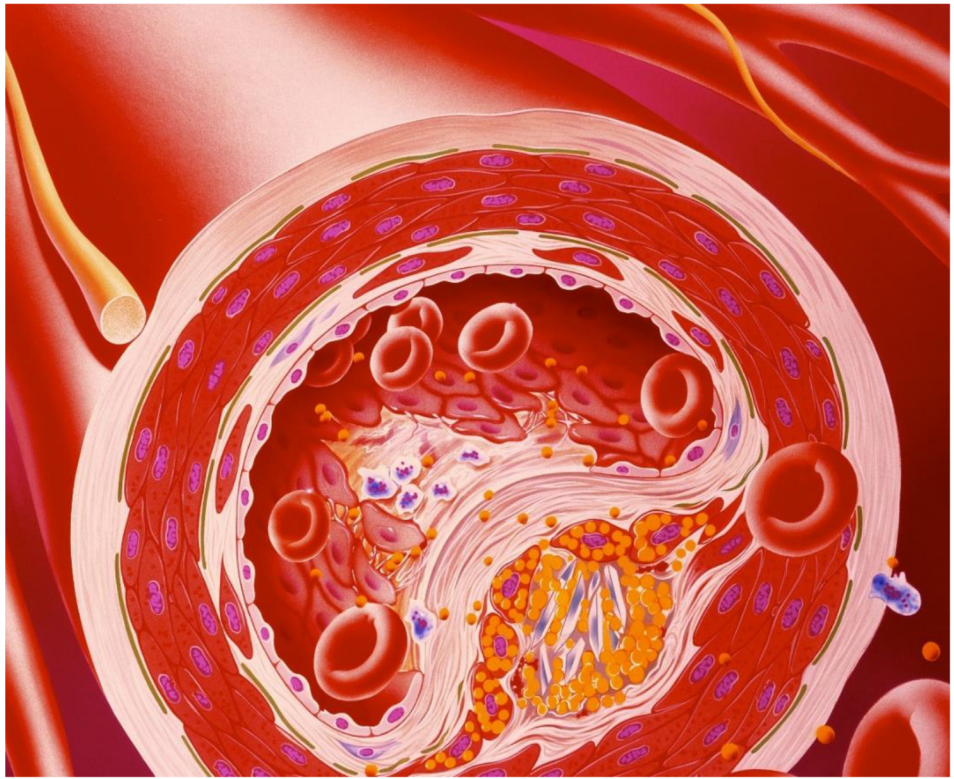
High Cholesterol[1]

1. WHO (2019).

Cardiovascular Disease

Cholesterol Regulation is Key

- Important to promote heart and blood vessel health via the reduction of cholesterol and triglycerides.
- HMG-CoA reductase is a key enzyme that mediates cholesterol production in the liver[1].
- Statins are the most commonly prescribed medication for the treatment of cardiovascular disease (CVD)[1].



1. Pearce *et al.* (1992). *J Med Chem*; 35: 3595 – 3606.

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However, statins have potential side effects.

Impaired Liver Function Tests[1]

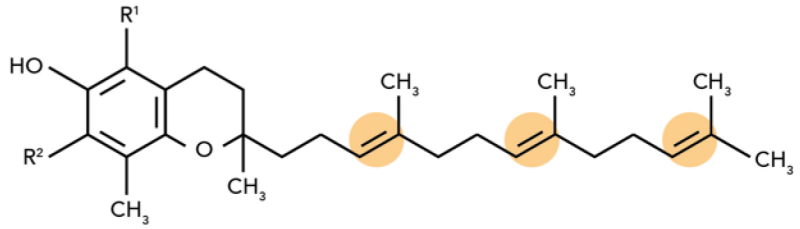
Muscle Soreness[1]

Increased Risk of Diabetes[2,3,4]

1. Ramanathan *et al.* (2018) *Nutrition & Metabolism*; 15 – 6
2. Lee *et al.* (2016) *Therapeutics and Clinical Risk Management*; (12): 1533 –1543
3. Jones *et al.* (2017) *Drugs Aging*; 34(3): 203-209
4. Casula *et al.* (2017) *Nutr Metab Cardiovasc Dis.*; 27(5): 396-406

A Better Form of Vitamin E

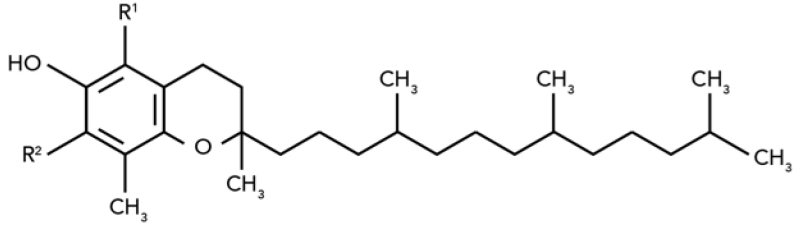
Tocotrienols



α : $R' = CH_3$, $R'' = CH_3$ δ : $R' = H$, $R'' = CH_3$

β : $R' = CH_3$, $R'' = H$ γ : $R' = H$, $R'' = H$

Tocopherols



α : $R' = CH_3$, $R'' = CH_3$ δ : $R' = H$, $R'' = CH_3$

β : $R' = CH_3$, $R'' = H$ γ : $R' = H$, $R'' = H$

Tocotrienols have unsaturated isoprenoid side chains (farnesyl isoprenoid tails) with **3 double bonds**[1].

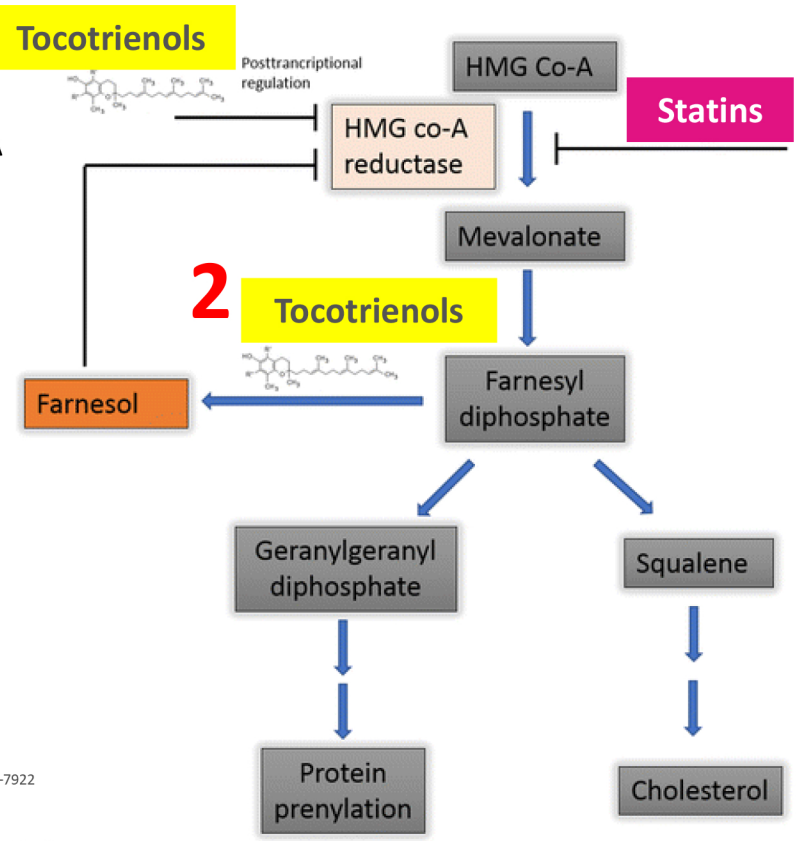
A unique property that makes Tocotrienols efficient at **neutralising free radicals** and **reducing chronic inflammation.**

1. Serbinova *et al.* (1991). *Free Radic Biol Med.*, 10(5): 263 - 275

Tocotrienols work via a Different Pathway

Mechanism 1:
Tocotrienols inhibit HMG-CoA reductase directly, post-transcriptionally, by blocking the translation of the mRNA[1].

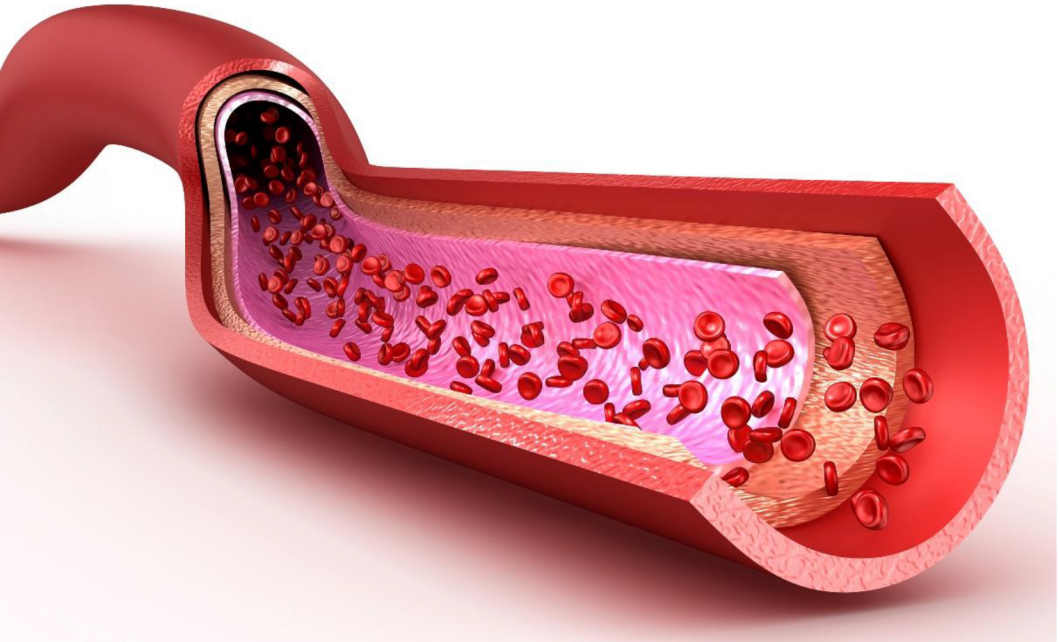
Mechanism 2:
Tocotrienols suppress the production of HMG-CoA reductase[2].



Statins mimic the structure of HMG-CoA and are competitive inhibitors for HMG-CoA Reductase[3].

1. Meigs *et al.* (1996) *The Journal of Biological Chemistry*; 271(14): 7916–7922
2. Pearce *et al.* (1992). *J Med Chem*; 35: 3595 – 3606.
3. Oesterle *et al.* (2017). *Circ Res.*; 120: 229–43.
4. Image adapted from Ramanathan *et al.* (2018) *Nutrition & Metabolism*; 15 – 6

Tocotrienols are safe even at high dosages



- Clinical trials on Tocotrienols have not reported any serious adverse events (50 – 400 mg/day for periods of 2 weeks to 18 months)[1].
- Tocotrienols have a short half-life in the body[1].
- Self-affirmed to be Generally Recognised as Safe (GRAS)[2].
- Tocotrienols do not increase risk of developing *diabetes mellitus*[3].

1. Schauss et al (2012). Vitamin E Beyond Tocopherols, Second Ed. Chapter .
2. FDA, U.S.; GRN307
3. Ramanathan *et al.* (2018) *Nutrition & Metabolism*; 15 – 6

1

Clinical studies show that Tocotrienols supplementation in hypercholesterolemic patients is able to reduce lipid profile imbalance, making Tocotrienols a potential safe and natural alternative to statins.

2

Tocotrienols exert cardioprotective benefits via other mechanisms of action, i.e. antioxidative effects (carotid stenosis)

3

Tocotrienols are able to balance dyslipidemia, but not α-Tocopherol

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