Δ⁶ Desaturase

Δ⁵ Desaturase

Diet

LA

ALA

Δ⁶ and Δ⁵ Desaturases

GLA

DGLA

AA

EPA

DHA

PGs of 2 series

PGA₂, PGE₂, PGF₂α, TXA₂, PGI₂

LTB₄, EETs, HETEs

PGs of 3 series

PGA₃, PGE₃, PGF₃α, TXA₃, PGI₃

LTB₅, EETs, HETEs

Lipoxins, Resolvins, Protectins, Nitrolipids

Saturated and trans-fats, cholesterol, viruses, high glucose, ageing, alcohol, adrenaline, glucocorticoids, hyperlipidemia, protein deficiency, radiation, total fasting

SREBPs, PPARs, LXR, FXR, HNF-4α, eNO

Leukocyte activation ↓, Platelet aggregation ↓

Telomere length↑

ACE and HMG-CoA enzymes↓

Pro-inflammatory molecules

Low-grade systemic inflammatory conditions

Cardiovascular diseases, Alzheimer’s disease, Depression, Schizophrenia, HCV and HIV infections, Diabetes mellitus, Collagen vascular diseases, Cancer, Malaria