

# Thromboxane

Thromboxane is a member of the family of lipids known as eicosanoids. The two major thromboxanes are [thromboxane A2](#) and thromboxane B2. The distinguishing feature of thromboxanes is a 6-membered ether-containing ring. Thromboxane is named for its role in clot formation.

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The anti-inflammatory properties of [NSAIDs](#) are primarily due to inhibition of the enzyme [cyclooxygenase](#) (COX) which participates in the synthesis of [prostaglandins](#) and [thromboxanes](#)<sup>1)</sup>.

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Fish Oil (Omega-3 Fatty Acids) is used for the treatment of [dyslipidemia](#) and [hypertriglyceridemia](#). Fish oil may affect platelet aggregation by a reduction in [arachidonic acid](#) and [thromboxane](#) and [adenosine diphosphate receptor](#) blockade. Fish oil may also potentially lengthen bleeding times<sup>2) 3) 4)</sup>.

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Garlic (*Allium sativum*): purported benefits include lowering blood pressure, preventing infection and myocardial infarction, and treating [hypercholesterolemia](#). Garlic has an antiplatelet effect through [ADP receptor blockade](#), and reducing calcium and [thromboxane](#)<sup>5)</sup>. Garlic may potentiate the antiplatelet or anticoagulant effect of [aspirin](#) or [warfarin](#)<sup>6)</sup>.

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Ginseng (*Panax ginseng*) has [antiplatelet](#) activity through [thromboxane](#) inhibition and platelet-activating factor<sup>7)</sup>.

Some authors also advocate cautious use of ginger and vitamin E when planning a surgery, but the exact antiplatelet mechanism is unclear<sup>8)</sup>.

<sup>1)</sup>  
Celecoxib for Arthritis. Med Letter. 1999; 41:11-12

<sup>2)</sup>  
Goodnight SH, Jr, Harris WS, Connor WE. The effects of dietary omega 3 fatty acids on platelet composition and function in man: a prospective, controlled study. Blood. 1981; 58:880-885

<sup>3)</sup>  
Ang-Lee MK, Moss J, Yuan CS. Herbal medicines and perioperative care. JAMA. 2001; 286:208-216  
<sup>4)</sup> ,  
<sup>8)</sup>

Stanger MJ, Thompson LA, Young AJ, et al. Anticoagulant activity of select dietary supplements. Nutr Rev. 2012; 70:107-117

<sup>5)</sup>  
Allison GL, Lowe GM, Rahman K. Aged garlic extract and its constituents inhibit platelet aggregation through multiple mechanisms. J Nutr. 2006; 136: 782S-788S

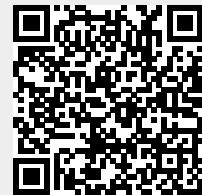
<sup>6)</sup>  
Saw JT, Bahari MB, Ang HH, et al. Potential drug-herb interaction with antiplatelet/anticoagulant drugs. Complement Ther Clin Pract. 2006; 12:236-241

<sup>7)</sup>  
Teng CM, Kuo SC, Ko FN, et al. Antiplatelet actions of panaxol and ginsenosides isolated from gin-

seng. Biochim Biophys Acta. 1989; 990:315–320

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