

Urinary 11-dehydrothromboxane B₂ Test

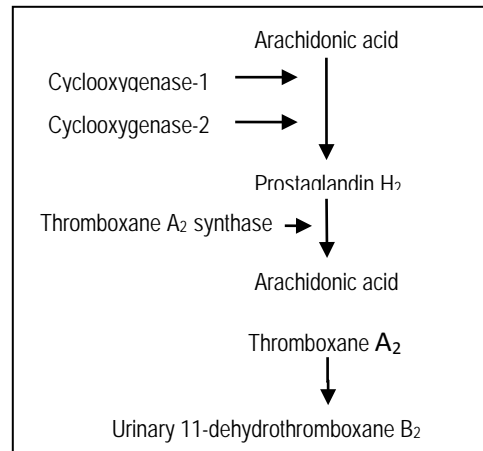
Literature Support

Thromboxane A₂ pathway – Complimentary therapy

Complementary and alternative medicine (CAM) refers to the use of medical products and practices unlike traditional medical practice. Alternative medicine refers to treatments used in place of traditional ones. Complementary medicine refers to non-traditional treatments together with traditional medical practices.

Many of the CAM products and treatments that are utilized by healthcare practitioners are known to have a significant effect on the thromboxane A₂ pathway and the prevention and reduction of chronic inflammation.

Levels of urinary 11-dehydrothromboxane B₂ reflect activity of components of the thromboxane A₂ pathway that result in thromboxane A₂ generation.



Peer reviewed publications citing the thromboxane A₂ pathway and urinary 11-dehydrothromboxane B₂ (11-DHTXB₂)

Date • Journal • Report Type • Human/Animal • Subject # • 11-DHTXB₂ Test cited

1. [Nutraceuticals in diabetes and metabolic syndrome](#)

2010 • Cardiovasc Ther • Clinical Review • 11-DHTXB₂

"We examined the effects of short-term vitamin E supplementation (600 mg daily for 2 week) on the urinary excretion of 8-iso-PGF_{2α} and 11-dehydro-TXB₂. Vitamin E supplementation was associated with detectable changes in plasma vitamin E levels and caused virtually complete normalization of -iso-PGF_{2α} excretion. Moreover, changes in F₂-isoprostane formation were accompanied by similar reductions in thromboxane metabolite excretion."

2. [The effects of diet on inflammation: emphasis on the metabolic syndrome](#)

2006 • Elsevier • Clinical Research • Human • 859 Subjects

"Dietary patterns high in refined starches, sugar, and saturated and trans-fatty acids and poor in natural antioxidants and fiber from fruits, vegetables, and whole grains may cause an activation of the innate immune system, most likely by an excessive reduction of proinflammatory cytokines associated with a reduced production of anti-inflammatory cytokines. This imbalance may favor the generation of a proinflammatory milieu, which in turn produces endothelial dysfunction at the vascular level and ultimately predisposes susceptible people to increased incidence of the metabolic syndrome and CHD."

3. [Effect of the Mediterranean diet with and without weight loss on markers of inflammation in men with metabolic syndrome](#)

2013 • Obesity • Clinical Research • Human • 26 Subjects

"Inflammation is now undisputedly recognized as being a key etiological factor in the pathogenesis of atherosclerosis and cardiovascular disease."

4. [The effect of agility exercise on eicosanoid excretion, oxidant status, and plasma lactate in dogs](#)

2012 • BioMed Central • Clinical Research • Dogs • 15 Subjects

"Agility competition in dogs has become a popular sport with a high incidence of injury. Development of methods to reduce increases in urinary TXB2 and plasma lactate in elite canine athletes warrants investigation and determination of their effects on injury rated in dogs is a possible next step in this research."

5. [Synthetic analogues of flavonoids with improved activity against platelet activation and aggregation as novel prototypes of food supplements](#)

2014 • Academia • Clinical Research • Humans • 10 Subjects

"The inhibitory effect of these compounds might rely on TxA₂ antagonism."

6. [Contribution of cyclooxygenase-2 to elevated biosynthesis of thromboxane A₂ and prostacyclin in cigarette smokers](#)

2005 • AHA • Clinical Research • Humans • 34 Subjects • 11-DHTXB2

"The increased prostacyclin biosynthesis in smokers is derived largely from the inducible COX-2. COX-2 also contributes to the increased biosynthesis of TxA₂ in smokers, most likely from inflammatory cells."

7. [Glycyrrhizin suppresses lung adenocarcinoma cell growth through inhibition of thromboxane synthase](#)

2014 • Cell Physiol Biochem • Clinical Research • Mice

"Our study has revealed anti-tumor effects of glycyrrhizin on lung adenocarcinoma, and these effect are, to some extent, TAS-dependent. TxAS has been shown to be a therapeutic target in lung cancer."

8. [Flavonoids-clinical effects and applications in dentistry: a review](#)

2014 • J Pharm Bioall Sci • Clinical Review

"It is recognized that arachidonic acid, which is released during the inflammatory conditions, is metabolized by platelets to form endoperoxides, prostaglandin, and thromboxane A2 which leads primarily to platelet activation and aggregation."

9. [Pharmacological activities of flavonoids: a review](#)

2011 • Int J Pharm Sci Nanotech • Clinical Review

"It is well known that arachidonic acid, which is released in inflammatory conditions, is metabolized by platelets to form prostaglandin, endoperoxides, and thromboxane A2 leading to platelet activation and aggregation. The main antiaggregatory effect of flavonoids is thought to be by inhibition of thromboxane A2 formation."

10. [Efficiency of pharmacologically-active antioxidant phytomedicine radical fruits in treatment hypercholestermia in men](#)

2006 • Georgian Med New • Clinical Research • Humans • 40 Subjects • 11-DHTXB2

"Urinary 8-epi-PGF2alpha level decreased from 450 +/- 170 to 330 +/-159 pg/mg creatinine, urinary 11-dehydro-TxB2 level decreased from 1,200 +/- 420 to 790 +/- 320 pg/mg creatinine with no changes in the placebo group."

11. [Casual chocolate consumption and inhibition of platelet function](#)

2007 • Prev Cardiol • Clinical Review • Humans

"Despite having similar baseline characteristics, chocolate consumers had longer PFA closure times (130 vs 123 seconds, P=05) and decreased Tx-M levels (175 vs 290 ng/molcreatinine, P=.03). Chocolate remained a significant independent predictor of both ex-vivo and in vivo platelet function testing after adjusting for confounders."

12. [Mediterranean diet reduces thromboxane A2 production in atrial fibrillation patients](#)

2015 • Elsevier • Clinical Review • Clinical Research • Humans • 11-DHTXB2

"Med diet adherence is inversely associated to urinary excretion of 11-dehydro-TxB2, suggesting that Med-Diet may favorably affect platelet function in AF patients."

13. [Effect of dietary fat and omega-3 fatty acids on urinary eicosanoids and sex hormone concentrations in postmenopausal women: A randomized controlled feeding trial](#)

2011 • Nutr Can • Clinical Research • Humans • 11-DHTXB2

"Urinary prostaglandin E metabolite increased with HF relative to LF (P = 0.02) and urinary 11-dehydro-thromboxane B2 increased with HF (P = 0.01)."

14. [Dietary fish oil alters the lysophospholipid metabolomic profile and decreases urinary 11-dehydro thromboxane B₂ concentration in healthy Beagles](#)

2011 • Elsevier • Clinical Research • Dogs • 50 Subjects • 11-DHTXB2

"After dietary treatment with different amounts of fish oil, age (increases 11-dehydro TXB₂) was followed by EPA concentration as a significant negative predictor of urine 11-dehydro TXB₂ concentration (increasing serum concentrations of EPA decrease 11-dehydro TXB₂), and then lean-body mass (decreases 11-dehydro TXB₂)."

15. [Reduction of thromboxane A₂ synthesis in pregnancy by polyunsaturated fatty acid supplements](#)

1993 • AJOG • Clinical Research • Humans • 16 Subjects • 11-DHTXB2

"A decrease ranging from 32% to 71%, in 24-hour urinary 11-dehydro-thromboxane B₂ excretion (mean reduction from 1606 pg/mg creatinine to 779 pg/mg creatinine, $p < 0.001$) was found among the 11 fish oil-treated women. No change in excretion was found among the control women. No maternal, fetal, or neonatal bleeding disturbances occurred, and no laboratory changes in coagulation markers were observed."

16. [Citrus flavonoids and human cancers](#)

2015 • J Nutr Food Sci • Clinical Review

"Nuclear factor kappa B (NF- κ B) transcription factors regulate several important physiologic processes of cell, e.g., cell growth, and apoptosis. Thus, inhibition of NF- κ B activation offers a potential strategy for treatment of different malignancies."

[Thromboxane A₂ pathway schematics](#)