F<sub>2</sub>-Isoprostanes (F<sub>2</sub>-IsoPs)

Description
F<sub>2</sub>-IsoPs, prostaglandin-like compounds formed from the free radical-mediated oxidation of arachidonic acid, are the ‘gold standard’ for measuring oxidative stress in the body. F<sub>2</sub>-IsoPs also have potent biological effects associated with inflammation and therefore may mediate chronic disease initiation and progression. Additionally, F<sub>2</sub>-IsoPs may also act as potent vasoconstrictors via thromboxane formation in the endothelium and promote platelet activation resulting in thrombus formation.

Clinical Use
The F<sub>2</sub>-IsoPs test may be performed on individuals at risk of future cardiovascular disease due to lifestyle risks, or those with a family history of cardiovascular disease.

Clinical Significance
- Elevated levels of urinary F<sub>2</sub>-IsoPs are seen in conditions associated with increased risk for atherosclerosis and certain forms of cancer.
- F<sub>2</sub>-IsoPs are elevated in smokers and with increased intake of red meat and are decreased with exercise.

Testing Frequency
Testing of F<sub>2</sub>-Isoprostanes is determined by an individual’s medical history, but may be performed semi-annually or annually as necessary. If the initial test result is abnormal, then follow-up testing may be performed within 3-6 months following treatment.

Sample Type
The F<sub>2</sub>-IsoPs test should be performed on a urine specimen collected in a yellow-top tube (without preservative).

Commercial Insurance or Medicare Coverage
Coverage guidelines, also known as NCD (National Coverage Determination) or LCD (Local Coverage Determination) have been established or posted by CMS (Medicare & Medicaid). Guidelines should be reviewed for coverage and limitation. Limited information has been provided by the majority of the larger carriers (Aetna, United Healthcare, Cigna, Blues).

F<sub>2</sub>-Isoprostanes levels are increased with:
- Cigarette smoking
- Poor diet (including high red meat intake)
- Sedentary lifestyle

CPT Code 82542/82570
Order Code C261
Sample Type Urine
Tube Type Yellow Top
References


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