

OxiSelect 8-iso-Prostaglandin F2a ELISA Kit

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CATALOG # AAA44555

PRODUCT SYNONYMS

OxiSelect 8-iso-Prostaglandin F2a; OxiSelect 8-iso-Prostaglandin F2a ELISA Kit; OxiSelect 8-iso-Prostaglandin F2a elisa kit

PRODUCT SPECIFICATIONS

Assay Type	Competitive
Preparation and Storage	Upon receipt, store the Anti-8-iso-PGF2alpha Antibody, 8-iso-PGF2alpha-HRP Conjugate, and 8-iso-PGF2alpha Standard at -20 degree C. Make aliquots as necessary to avoid freeze/thaw cycles. Store all other kit components at 4 degree C. Any partial or unused components should return to their proper storage temperatures.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for OxiSelect 8-iso-Prostaglandin F2a elisa kit	Background: Lipid peroxidation is a well-defined mechanism of cellular damage in animals and plants. Lipid peroxides are unstable indicators of oxidative stress in cells that decompose to form more complex and reactive compounds such as isoprostanes. The isoprostanes are a type of eicosanoids produced non-enzymatically through the oxygen radical induced peroxidation of tissue phospholipids and lipoproteins. Isoprostanes are prostaglandin-like compounds that appear in normal plasma and urine samples, but are elevated by oxidative stress in tissue, plasma, and urine. 8-iso-Prostaglandin F2alpha (also known as 8-epi-PGF2alpha, 8-isoprostane, or 15-isoprostane F2t), is an isoprostane that has been shown to be useful for the assessment of oxidative stress in vivo. It is produced in membrane phospholipids from non-cyclooxygenase and cyclooxygenase peroxidation pathways derived from arachidonic acid. 8-iso-Prostaglandin F2alpha (8-iso-PGF2alpha) is a potent vasoconstrictor, a mutagen in 3T3 cells as well as vascular smooth muscle cells, and also a possible pathophysiological mediator that can alter membrane integrity. It has been implicated in atherogenesis and elevated levels are associated with hepatorenal syndrome, rheumatoid arthritis, carcinogenesis, as well as atherosclerosis. 8-iso-PGF2alpha circulates in the plasma and is excreted in the urine. 8-iso PGF2alpha circulates as an esterified LDL Phospholipid and as a free acid. Normal human plasma and urine 8-iso PGF2alpha is about 40-100 pg/mL and about 190 pg/mg of creatinine respectively. Methods for determining total 8-iso PGF2alpha usually require alkaline hydrolysis of 8-iso PGF2alpha esters from tissues followed by extractions, phase separations and thin layer chromatography. The OxiSelect™ 8-iso-Prostaglandin F2alpha ELISA Kit is an enzyme immunoassay developed for rapid detection and quantification of 8-iso-PGF2alpha. The quantity of 8-iso-PGF2alpha in samples is determined by comparing its absorbance with that of a known 8-iso-PGF2alpha standard curve. Each kit provides sufficient reagents to perform up to 96 assays, including the standard curve and unknown samples. Principle of the Assay: 8-iso-PGF2alpha kit is a competitive enzyme-linked immunoassay (ELISA) for determining levels of 8-iso-PGF2alpha in a variety of biological samples such as plasma, urine, serum, or tissue extracts. An antibody to 8-iso-PGF2alpha is incubated in pre-coated microtiter plate wells. Upon washing, 8-iso-PGF2alpha standards or treated samples are mixed with an 8-iso-PGF2alpha-HRP conjugate and added simultaneously to the wells. The unconjugated, or free 8-iso-PGF2alpha and 8-iso-PGF2alpha-HRP conjugate compete for binding to the antibody bound to the plate. After this brief incubation and wash, a substrate to the HRP is added. The HRP activity results in color development that is directly proportional to the amount of 8-iso-PGF2alpha conjugate bound to the plate and inversely proportional to the amount of free 8-iso-PGF2alpha in the samples or standards. The 8-iso-PGF2alpha content in an unknown sample is determined by comparing with the known predetermined standard curve. Please read the complete kit insert prior to performing the assay.
Product Categories/Family for OxiSelect 8-iso-Prostaglandin F2a elisa kit	Oxidative Stress/Damage ; Lipid Peroxidation ; 8-iso-Prostaglandin F2a Assay
References	1. Banerjee, M., Kang, K.H., Morrow, J.D., et al. (1992) Am. J. Physiol. 263: H660-H663. 2. Morrow, J.D., Hill, K.E., Burk, R.F., et al. (1990) Proc. Natl. Acad. Sci. USA. 87: 9383-9387. 3. Morrow, J.D., Harris, T.M., Roberts, L.J. (1990) Anal. Biochem. 184: 1-10. 4. Vacchiano, C.A., and Tempel, G.E. (1994) J. Appl. Physiol. 77: 2912-2917. 5. Wang, Z., Ciabattini, G., Cre'minon, C., et al. (1995) Pharmacol. Exp. Ther. 275: 94-100. 1. Paneni, F. et al. (2015). Adverse epigenetic signatures by histone methyltransferase set7 contribute to vascular dysfunction in patients with type 2 diabetes mellitus. Circ Cardiovasc Genet. 8:150-158. 2. Dallatu, M. K. et al. (2015). The role of hypoxia-inducible factor/prolyl hydroxylation pathway in deoxycorticosterone acetate/salt hypertension in the rat. J Hypertens. doi:10.4172/2167-1095.1000184. 3. Pereira, S. et al. (2015). Effect of N-acetyl-L-cysteine on insulin resistance caused by prolonged FFA elevation. J Endocrinol. doi: 10.1530/JOE-14-0676. 4. Zabala, V. et al. (2015). Potential contributions of the tobacco nicotine-derived nitrosamine ketone (NNK) in the pathogenesis of steatohepatitis in a chronic plus binge rat model of alcoholic liver disease. Alcohol Alcohol. doi: http://dx.doi.org/10.1093/alcal/agu083. 5. Macedo, R. C. S. et al. (2015). Effects of chronic resveratrol supplementation in military firefighters undergo a physical fitness test-a placebo-controlled, double blind study. Chem Biol Interact. 227:89-95. 6. Dugas, T.R. et al. (2014). Hydrogen sulfide cytoprotective signaling is endothelial nitric oxide synthase-nitric oxide dependent. PNAS 111:3182-3187. 7. Karakus, E. et al. (2013). Agomelatine: an antidepressant with new potent hepatoprotective effects on paracetamol-induced liver damage in rats. Human and Experimental Toxicology. 10.01177/0960327112472994. 8. Mollo, R. et al. (2012). Effect of alpha-lipoic acid on platelet reactivity in type 1 diabetic patients. Diabetes Care 35:196-197. 9. Thompson, C.M. et al. (2012). Comparison of the effects of hexavalent chromium in the alimentary canal of F344 rats and B6C3F1 mice following exposure in drinking water: implications for carcinogenic modes of action. Toxicol. Sci. 125:79-90. 10. Ungvari, Z. et al. (2011). Age-associated vascular oxidative stress, Nrf2 dysfunction, and NF-kappaB activation in the nonhuman primate Macaca mulatta. J. Gerontol A Biol Sci Med Sci. 10.1093/gerona/glr092.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/elisa-kits/oxiselect-8-iso-prostaglandin-f2a/44555>