

8-iso-PGF_{2α} (direct) ELISA Kit



TECHNICAL SPECIFICATIONS

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8-iso-Prostaglandin F_{2α} (direct) ELISA Kit Product #: EKS-210

Description

Stressgen's StressXpress™ 8-iso-Prostaglandin F_{2α} (direct) ELISA Kit is a competitive immunoassay for the quantitative determination of total (free and esterified) 8-iso-prostaglandin F_{2α} in biological fluids.

Sample Types

serum, plasma, tissue homogenate

Scientific Background

8-epimer of Prostaglandin F_{2α} (8-iso-PGF_{2α}) is a major isoprostane that is mainly produced by non-enzymatic free radical-induced peroxidation of arachidonic acid (AA) present in phospholipids^{1,2,3}. 8-iso-PGF_{2α} is also produced as a minor product of the COX-1 enzyme in human platelets⁴ and the COX-2 isoform in human monocytes⁵.

8-iso-PGF_{2α} has been found to be a potent constrictor of the renal and pulmonary vasculature and a bronchoconstrictor^{6,7}. It mediates smooth muscle cell growth, activates platelets⁸ and induces derangement of the endothelial cell barrier function⁹. 8-iso-PGF_{2α} has also been suggested to participate as a pathophysiological mediator and to modify the fluidity and integrity of membranes¹⁰.

8-iso-F_{2α} has been shown to circulate in plasma and be excreted in urine¹¹. Elevated plasma, serum and urine levels of 8-iso-PGF_{2α} have been shown to be associated with cardiovascular risk factors such as cigarette smoking, hypercholesterolemia¹² and hyperhomocysteinemia¹³. Enhanced urinary excretion of 8-iso-PGF_{2α} has been described in association with both type 1 and type 2 diabetes mellitus and correlated with impaired glycemic control¹⁴. Elevated plasma content of free 8-iso-F_{2α} has been reported in women with preeclampsia and recent data indicates that 8-iso-PGF_{2α} may have a potential role in reduced trophoblast invasion in this condition^{15,16,17}.

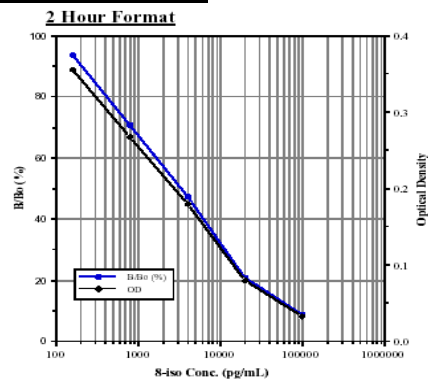
Application Note:

Urine is not a suitable sample for analysis in this kit. Urine samples should be measured using the 8-iso PGF_{2α} ELISA Kit, (Product# EKS-200).

Assay Procedure Summary

1. Add Neutralizing Reagent to appropriate wells.
2. Add 8-iso-PGF_{2α} Standards and samples in duplicate to the pre-coated ready-to-use Goat Anti-Rabbit IgG Microtiter Plate.
3. Add 8-iso-PGF_{2α} Direct Conjugate and 8-iso-PGF_{2α} ELISA Antibody; incubate then wash.
4. Develop with p-Npp Substrate.
5. Add Acid Stop Solution.
6. Measure absorbance at 405nm.
7. Plot 8-iso-PGF_{2α} standard curve and determine sample concentrations.

Typical Standard Curve



Background References

References are available upon request.

Rev: 04/19/02

CERTIFICATE OF ANALYSIS

8-iso-PGF_{2α} (direct) ELISA Kit

Product #: EKS-210

Size: 1 X 96 well plate

Lot #: B204424

Number of Samples: 39 samples in duplicate.

Sensitivity:

2 hr format: 103pg/mL Range: 160-100,000pg/mL
Overnight format: 40.0pg/mL

Sample Volume: 50µL

Incubation Time: <3hrs-overnight

Wavelength Setting: 405nm

Materials Included:

- Goat Anti-Rabbit IgG Microtiter Plate
- 8-iso-PGF_{2α} Direct Conjugate
- 8-iso-PGF_{2α} ELISA Antibody
- Direct 8-iso-PGF_{2α} Sample Diluent
- Neutralizing Reagent
- Wash Buffer Concentrate
- 8-iso-PGF_{2α} Standard
- p-Npp Substrate
- Stop Solution
- Plate Sealer
- Instruction Manual

Storage of Kit: All components are stable at 4°C until the kit's expiry date.

Kit Expiry Date: 08/12/02

Note:

The components in each kit lot # have been quality assured and warranted in this specific combination only; please do not mix them with components from other kit lot #s



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