

# 8-iso-PGF<sub>2α</sub> ELISA Kit



## TECHNICAL SPECIFICATIONS

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### 8-iso-Prostaglandin F<sub>2α</sub> ELISA Kit Product #: EKS-200

#### Description

Stressgen's StressXpress™ 8-iso-Prostaglandin F<sub>2α</sub> ELISA Kit is a competitive immunoassay for the quantitative determination of free 8-iso-prostaglandin F<sub>2α</sub> in biological fluids.

#### Sample Types

serum, plasma, urine, saliva, tissue culture media (with or without fetal calf serum)

#### Scientific Background

8-epimer of Prostaglandin F<sub>2α</sub> (8-iso-PGF<sub>2α</sub>) is a major isoprostane that is mainly produced by non-enzymatic free radical-induced peroxidation of arachidonic acid (AA) present in phospholipids<sup>1,2,3</sup>. 8-iso-PGF<sub>2α</sub> is also produced as a minor product of the COX-1 enzyme in human platelets<sup>4</sup> and the COX-2 isoform in human monocytes<sup>5</sup>.

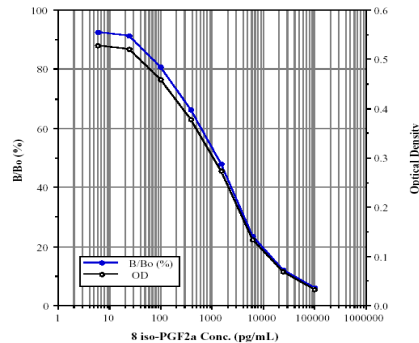
8-iso-PGF<sub>2α</sub> has been found to be a potent constrictor of the renal and pulmonary vasculature and a bronchoconstrictor<sup>6,7</sup>. It mediates smooth muscle cell growth, activates platelets<sup>8</sup> and induces derangement of the endothelial cell barrier function<sup>9</sup>. 8-iso-PGF<sub>2α</sub> has also been suggested to participate as a pathophysiological mediator and to modify the fluidity and integrity of membranes<sup>10</sup>.

8-iso-F<sub>2α</sub> has been shown to circulate in plasma and be excreted in urine<sup>11</sup>. Elevated plasma, serum and urine levels of 8-iso-PGF<sub>2α</sub> have been shown to be associated with cardiovascular risk factors such as cigarette smoking, hypercholesterolemia<sup>12</sup> and hyperhomocysteinemia<sup>13</sup>. Enhanced urinary excretion of 8-iso-PGF<sub>2α</sub> has been described in association with both type 1 and type 2 diabetes mellitus and correlated with impaired glycemic control<sup>14</sup>. Elevated plasma content of free 8-iso-F<sub>2α</sub> has been reported in women with preeclampsia and recent data indicates that 8-iso-PGF<sub>2α</sub> may have a potential role in reduced trophoblast invasion in this condition<sup>15, 16, 17</sup>.

#### Assay Procedure Summary

1. Add 8-iso-PGF<sub>2α</sub> Standards and samples in duplicate to the pre-coated ready-to-use Goat Anti-Rabbit IgG Microtiter Plate.
2. Add 8-iso-PGF<sub>2α</sub> Direct Conjugate and 8-iso-PGF<sub>2α</sub> ELISA Antibody; incubate then wash.
3. Develop with p-Npp Substrate.
4. Add Acid Stop Solution.
5. Measure absorbance at 405nm.
6. Plot 8-iso-PGF<sub>2α</sub> 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<sub>2α</sub> ELISA Kit

Product #: EKS-200

Size: 1 X 96 well plate

Lot #: B204414

Number of Samples: 36 samples in duplicate

Sensitivity: 16.3pg/mL

Range: 6.1-100,000pg/mL

Sample Volume: 100µL

Incubation Time: <3hrs

Wavelength Setting: 405nm

Materials Included:

- Goat Anti-Rabbit IgG Microtiter Plate
- 8-iso-PGF<sub>2α</sub> ELISA Conjugate
- 8-iso-PGF<sub>2α</sub> ELISA Antibody
- Assay Buffer
- Wash Buffer Concentrate
- 8-iso-PGF<sub>2α</sub> Standard
- p-Npp Substrate
- Stop Solution
- Plate Sealer
- Instruction Manual

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

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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