ELISA Kits

A. Arachidonic Acid (AA) Pathway ELISA Kits

**Arachidonic Acid (AA) Pathway**

Elisa Kits for metabolites shaded in yellow are all available from Detroit R&D

- **8-Isoprostanee**
- Oxidative Stress
  - Non-Enzymatic
  - **20-HETE**
  - Hypertension/Cardiovascular Disease
- **CYP4A/4F**
- **COX-2**
- **PGH2**
- **PGE2**
- **14,15-DHET**
  - Cancer Arthritis
  - **EETs**
  - **Lipoxygenase**
  - Soluble Epoxide Hydrolase (sEH)
  - **15- and 12-HETEs**
  - Cancer Inflammation

**14,15-DHET and 14,15-EET/DHET: BioTarget Hypertension ELISA Kits**

*BioTarget™ 14,15-DHET Hypertension ELISA kit*, Cat. # DH1, $360

*BioTarget™ 14,15-DHET ELISA Kit for Kidney Disease*, Cat. # DH1, $360

14,15-EET/DHET kit, Cat. # DH2, $360

14,15-DHET Human Urine ELISA Test Kit, Cat. # DH3, $386

**11,12-DHET and 11,12-EET/DHET: BioTarget Hypertension ELISA Kits**

11,12-DHET immunoassay kit, Cat. # DH4, $360

11,12-EET/DHET kit, Cat. # DH5, $360

**Cell-Based Soluble Epoxide Hydrolase (sEH) ELISA Kit**
ELISA Kit for Measuring sEH Activity in Biological Samples, Cat # SH1, $386

20-HETE: BioTarget Hypertension ELISA Kits
20-HETE Hypertension ELISA kit, Cat. # 20H1, $360

20-HETE/Beta-Glucuronidase Hypertension ELISA Kit
ELISA Kit for Measuring Glucuronigated 20-HETE, Cat # 20HG1, $386

Oxidative Stress ELISA Kit
(8-isoprostane: iP2α−III, 8-epi prostaglandin F2α, 8-iso prostaglandin F2α)
8-Isoprostane oxidative stress ELISA kit, Cat # 8iso1, $360

PGE$_2$ ELISA Kit
PGE$_2$ ELISA kit, Cat. # PGE1, $360

Lipoxygenase ELISA Kits
12-HETE
12-HETE Hypertension ELISA kit, Cat. # 12H1, $360

15-HETE
15-HETE Hypertension ELISA kit, Cat. # 15H1, $360

Detailed Information on the AA Pathway ELISA Assays
AA pathway plays a key role in cardiovascular, e.g., hypertension, heart disease, stroke, kidney damage, inflammatory diseases, e.g., asthma and arthritis, and cancer (see the AA pathway diagram above). All of the metabolites of the various AA pathways are blood or urine biomarkers for human and animals.

In AA pathway, there are 4 different biologically active fatty acid pathways (biomarkers: PGE$_2$, 12-HETE, 15-HETE, 11,12-EET, 11,12-DHET, 14,15-EET, 14,15-DHET, 20-HETE) important for disease diagnoses and prevention and therapeutic intervention and a non-enzymatic oxidative stress pathway (biomarker, 8-isoprostane) for disease diagnoses and prevention. Detroit R&D is the only worldwide sources of 14,15-DHET, 14,15-EET/DHET, 11,12-DHET, 11,12-EET/DHET and 20-HETE ELISA.

The first enzymatic AA pathway is the cyclooxygenase-2 (COX-2) pathway which produces PGE$_2$ (biomarker of cancer and arthritis (Cat # PGE1). COX-2 inhibitors, aspirin and non-steroidal anti-inflammatory drugs (NSAIDs), decrease pain and inflammation.

The second enzymatic AA pathway is the lipoxygenases (LOXs) pathway which produce eicosatetraenoic acid (HETE), e.g., 12-HETE (Cat # 12H1) and 15-HETE (Cat # 15H1).
The third **enzymatic** AA pathway is the cytochromes (CYPs) 2C and 2J pathway which produces epoxideicosatrienoic acids (EETs), vasodilators, which are subsequently metabolized to dihydroxyeicosatrienoic acids (DHETs) by soluble epoxide hydrolase (sEH) losing the beneficial vasodilating effects of the EETs. DHETs are further metabolized to the glucuronidated form and excreted to the urine. The primary metabolite of sEH is 14,15-DHET.

Detroit R&D has been awarded National Institute of Health (NIH) Small Business Innovation Research (SBIR) Phases I and II contracts to develop novel ELISA assays to detect 14,15-DHET (Cat # DH1), 14,15-EET/DHET (Cat # DH2) and glucuronidated 14,15-DHET (Cat # DH3) and 11,12-DHET (Cat # DH4) and 11,12-EET/DHET (Cat # DH5) in blood, urine, tissues, cells and cell media 14,15-DHET-formation activity of sEH in a sample can be measured using 14,15-DHET ELISA with EET as a substrate (Cat # SH1) (see **BioTarget®** Hypertension, Stroke, Diabetes ELISA Youtube below)

Over 70 references in the area of hypertension, stroke, heart failure, pulmonary hypertension, aortic aneurysm, asthma, insulin resistance, kidney damage were published using the 14,15-DHET ELISA kit.

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The fourth **enzymatic** AA pathway is the cytochromes (CYPs) 4A and 4F (AA ω-hydroxylase) pathway which produces 20-hydroxyeicosatetraenoic acid (20-HETE). 20-HETE (Cat # 20H1) and glucuronidated 20-HETE (Cat # 20HG1) are biomarkers of hypertension and cardiovascular and kidney diseases. Over 40 references published using the 20-HETE ELISA kit.

**Non-enzymatic** AA pathway is the 8-isoprostane, an oxidative stress biomarker pathway which is associated with many old age diseases including dementia and Alzheimer’s disease, type 2 diabetes (Cat # 8iso1).

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**B. Environmental Contaminants ELISA Kits**
**BPA (Bisphenol A) Environmental Estrogen**
BPA ELISA Kit, **Cat # BPA1**, $360

**BPS (Bisphenol S) Environmental Estrogen**
BPS ELISA Kit, **Cat # BPS1**, $360

**2-NAP (2-Naphthol) Air Pollution ELISA Kit**
BPS ELISA Kit, **Cat # BPS1**, $360