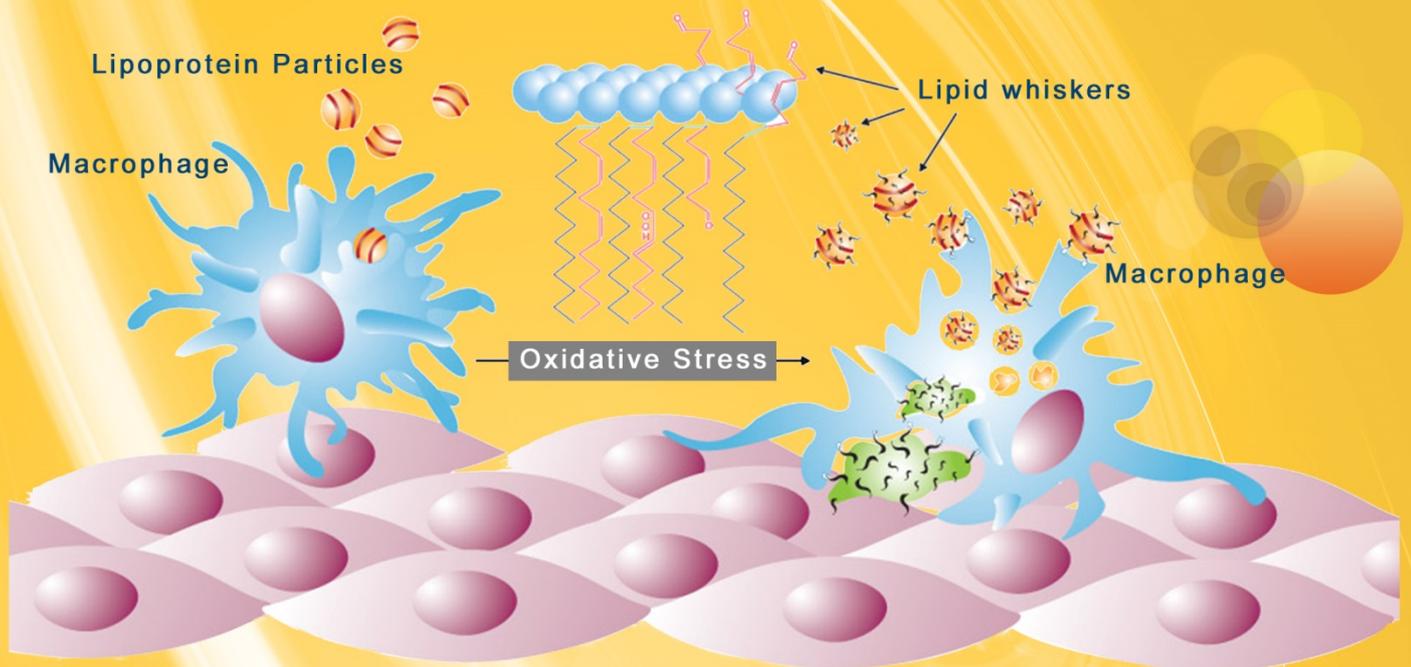


Lipid Peroxidation



**An exclusive HNE metabolite biomarker assay
now available for your research**

- ▶ Comprehensive validation (GLP-like)
- ▶ No sample extraction

DHN-MA

Reactive Oxygen Species (ROS) play an important role in pathogenicity of several diseases (cardiovascular diseases such as atherosclerosis, cerebral or heart ischemia-reperfusion injury) but are also involved in cell signaling. Consequently, there is an increasing need in assays to monitor those biomarkers.

For decade, 8-Isoprostane (8-isoPGF2 α , 8-isoprostaglandine F2 α , 8-epiPGF2 α) has been used as the biomarker of lipid peroxidation. This biomarker is difficult to measure and needs an extraction whatever the method used. Also very popular are beta-cleavage products of polyunsaturated fatty acids (PUFA), such as alkanes, ketones or aldehydes.

Two well-known aldehydes formed during the lipid peroxidation process, namely malondialdehyde (MDA) and 4-hydroxy-2-nonenal (HNE), have already been used as lipid peroxidation biomarkers for decades. MDA assays using thiobarbituric reaction are now named TBARS assay (ThioBarbituric Acid Reactive Substances assay) due to the lack of specificity of the reaction. Measurement of HNE and protein/HNE adducts in tissues makes HNE more attractive in the field of clinical and experimental studies.

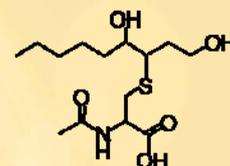
Moreover, **1,4-dihydroxynonane mercapturic acid (DHN-MA), the major urinary metabolite of HNE**, is present at a physiological level in rat and human urine. It was demonstrated that DHN-MA measured without extraction in rat urines treated with BrCCl $_3$, which induces lipid peroxidation, mainly correlates with MDA and 8-Isoprostane, which were measured concomitantly. HNE & thus DHN-MA are generated from PUFA (alimentation), conclusions on lipid peroxidation should be considered accordingly.

Bibliography

- ▶ Guéraud F, Peiro G, Bernard H, Alary J, Créminon C, Debrauwer L, Rathahao E, Drumare MF, Canlet C, Wal JM, Bories G
Enzyme immunoassay for a urinary metabolite of 4-hydroxynonenal as a marker of lipid peroxidation
Free Radic Biol Med. 2006 Jan 1;40(1):54-62. Epub 2005 Sep 2

Our DHN-MA Lipid Peroxidation EIA kit #A05033

- ▶ **Standard range: 7,8-1000 pg/mL**
- ▶ **Application media: urine (other upon request)**
- ▶ **Extraction: Not required**
- ▶ **Limit of detection: 10 pg/mL**



Related products

8-isoprostane family

- ▶ iPF2 α -VI-d $_4$ # 316300
- ▶ 8-iso Prostaglandin F2 α -d $_4$ # 316350
- ▶ 8-iso Prostaglandin A2-biotin # 10010500
- ▶ ent-8-iso-15(S)-Prostaglandin F2 α -d $_9$ # 10011720
- ▶ 8,12-iso-iPF2 α -VI-1,5-lactone # 10312
- ▶ iPF2 α -IV # 16230
- ▶ 2,3-dinor-8-iso Prostaglandin F2 α # 16290
- ▶ 5-iPF2 α -VI # 16300
- ▶ 8-iso Prostaglandin F2 α # 16350
- ▶ 8-iso Prostaglandin F2 β # 16370

and many more, please ask us!

Indicators of lipid peroxidation

- ▶ cis-Parinaric Acid # 71430
- ▶ Hydroxy Linoleins # 89420
- ▶ trans-EKODE-(E)-Ib # 10004413
- ▶ trans-4,5-epoxy-2(E)-Decenal # 10004257
- ▶ α -CEHC # 10007705
- ▶ 9(Z),11(E),13(E)-Octadecatrienoic Acid methyl ester # 10008350

and many more, please ask us!

Activators of lipid peroxidation

- ▶ Peroxynitrite # 81565
- ▶ AAPH # 82235

HNE family

- ▶ 4-hydroxy Nonenal-d $_3$ # 332101
- ▶ 4-oxo-2-Nonenal # 10185
- ▶ 4-hydroxy Nonenal Glutathione (trifluoroacetate salt) # 10627
- ▶ 4-hydroxy Nonenal Alkyne # 13265
- ▶ 4-hydroxy Hexenal # 32060
- ▶ 4-hydroxy Nonenal # 32100
- ▶ 4-hydroxy Nonenal Mercapturic Acid # 32110

and many more, please ask us!

Kits

- ▶ 8-Isoprostane EIA Kit # 516351
- ▶ TBARS (TCA Method) Assay Kit # 700870
- ▶ Lipid Hydroperoxide (LPO) Assay Kit # 705002
- ▶ 8-Isoprostane Affinity Column # 401111
- ▶ 8-Isoprostane Affinity Sorbent # 401113
- ▶ STAT-8-Isoprostane EIA Kit # 500431

Service

- ▶ 8-isoprostane plasma measurement # A90001

Catalogues

- ▶ Oxidative and nitrosative stress
- ▶ Redox Signaling & Thiol Modification



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