OXIDATIVE STRESS BIOMARKERS

OXIDATIVE STRESS

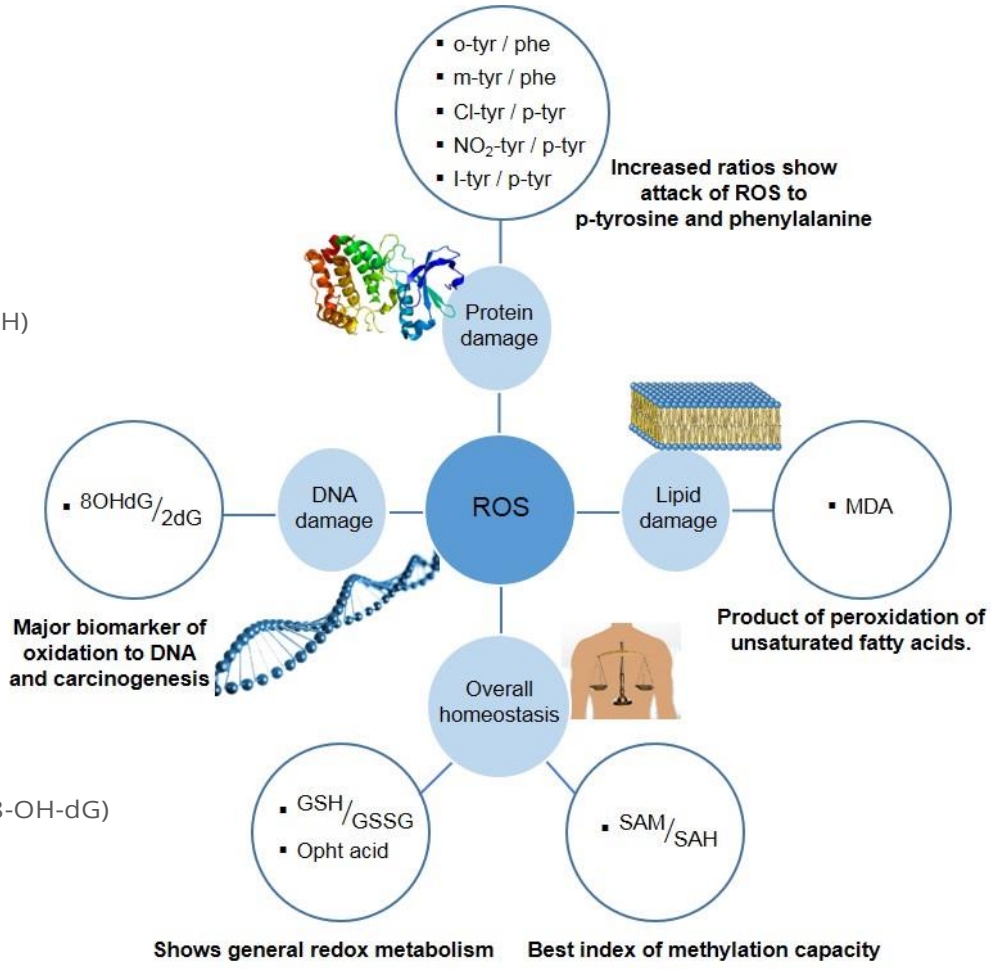
- Oxidative stress is the imbalance between oxidants (reactive oxygen species, ROS) and the antioxidant defence.
- It is recognized to be a prominent feature of many diseases.
- Many ROS are extremely unstable and difficult to measure directly. A rational alternative consists in the measurement of the resulting damage to biomolecules, proteins, DNA, or lipids, providing a more reliable method to measure oxidative stress.

UPLC-MSMS ANALYSIS

- The Analytical Unit has developed and validated a LC-MS/MS method for the routine assessment in biological samples of well-known oxidative stress biomarkers.
- Biomarkers of oxidative stress are indicators of normal biological processes, pathogenic processes, or pharmacologic responses to therapeutic intervention.
- Type of samples: urine, serum, tissue, cells, and culture medium.

MEASURED BIOMARKERS

- glutathione (GSH)
- glutathione disulfide (GSSG)
- ophthalmic acid (Opht A)
- S-adenosyl-L-methionine (SAM)
- S-adenosyl-L-homocysteine (SAH)
- malondialdehyde (MDA)
- 3-iodo-tyrosine (I-Tyr)
- 3-nitro-tyrosine (NO2-Tyr)
- 3-chloro-tyrosine (Cl-Tyr)
- o-tyrosine (o-Tyr)
- m-tyrosine (m-Tyr)
- p-tyrosine (p-Tyr)
- phenylalanine (phe)
- 2-deoxyguanosine (2dG)
- 8-hydroxy-2-deoxyguanosine (8-OH-dG)



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