Pharmacological applications of modulators of oxidative stress

Prof. Luciano Saso

Faculty of Pharmacy and Medicine, Sapienza University of Rome, Rome, Italy
luciano.saso@uniroma1.it
https://www.researchgate.net/profile/Luciano_Saso
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Oxidative stress is involved in the pathogenesis of many disorders, and modulators of oxidative stress (OS) can be of value in their treatment. The mechanisms by which OS can be modulated will be presented, including the activation or inhibition of nuclear factor erythroid 2-related factor 2 (Nrf2), the master regulator of endogenous antioxidant enzymes. Unfortunately, it is known that antioxidant treatments failed in many clinical trials (https://clinicaltrials.gov/) and the reasons that might explain that will be illustrated. Novel approaches to redox therapies are necessary and the development of reliable biomarkers capable to predict the clinical responses is crucial.

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Prof. Luciano Saso (luciano.saso@uniroma1.it) is a Member of the Faculty of Pharmacy and Medicine, Sapienza University of Rome, Italy (http://en.uniroma1.it/). He is author of more than 250 original scientific articles published in peer reviewed international journals with impact factor (H-index Google Scholar = 47, H-index SCOPUS = 39, Total Impact Factor > 800) working mainly in the field of **oxidative stress and antioxidants.** He coordinated several international research projects and has been referee for many national and international funding agencies and international scientific journals in the last 25 years. He has been Guest Editor of several Special Issues in the field, including: ***Chemistry, Biology, and Pharmacology of Modulators of Oxidative Stress*** in the Journal Oxidative Medicine and Cellular Longevity in 2018, ***Chemistry and Pharmacology of Modulators of Oxidative Stress*** in the Journal Molecules in 2018**,** ***Modulation of Oxidative Stress: Pharmaceutical and Pharmacological Aspects*** published in the journal Oxidative Medicine and Cellular Longevity in 2016, "***Oxidative Stress as a Pharmacological Target for Medicinal Chemistry: Synthesis and Evaluation of Compounds with Redox Activity"*** published in the journal Current Topics in Medicinal Chemistry in 2014, "***Synthesis, evaluation and pharmacological applications of antioxidants***" published in the journal Curr Med Chem in 2013, ***"Antioxidant heterocyclic compounds in drug discovery and medicinal chemistry"*** published in the journal Mini reviews in medicinal chemistry in 2013, ***"Chemistry and biology of antioxidants***" published in The Journal of Pharmacy and Pharmacology in 2007.