



Reactive Oxygen Species (ROS): Molecular Mechanisms and Therapeutic Strategy

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Message from the Guest Editor

Reactive oxygen species (ROS), which are in a chemically active state, are a byproduct of the metabolism of oxygen in cells. They play critical roles in molecular mechanisms in cellular signaling processes, proliferation/migration and homeostasis. Furthermore, the molecular mechanism of ROS is a double-edged sword. Appropriate levels of intracellular ROS contribute to the proliferation, migration and/or homeostasis of cells, while their over-production frequently induces cell cycle arrest, apoptosis, necrosis and/or alterations of genetic/cell structure.

These unique properties of ROS have been investigated as a therapeutic tool for various diseases. For example, novel chemotherapeutic agents, which produce ROS, can be used to induce oxidative stress intracellularly and then kill abnormal cells. Additionally, ROS-producing agents can be used as anticancer agents for cancer chemotherapy.





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Message from the Editor-in-Chief

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