Acciones del peróxido de hidrógeno (H2O2) como señalizador redox y como agente de estrés oxidante en la diabetes mellitus [

2023

text (article)

Analítica

Cellular metabolism is a constant source of reactive oxygen species (ROS). The production of hydrogen peroxide (H2O2) is particularly relevant, due to its role in cellular physiology. H2O2 can act as a classical intracellular signaling molecule in several processes like cell proliferation, hormone synthesis and secretion, immune cell regulation, angiogenesis, and apoptosis. However, H2O2 overproduction and accumulation, derived from increased mitochondrial electron transport chain activity, glucose autoxidation, and increased polyol flux, contribute to an imbalance in the redox state of the cells. High concentration of H2O2 induces cellular dysfunction through oxidation of macromolecules like proteins, lipids, carbohydrates and nucleic acids. H2O2-induced oxidative damage can contribute to the development and progression of degenerative diseases such as diabetes mellitus. Indeed, chronic hyperglycemia has been shown to cause an increased H2O2 concentration and oxidative damage that contribute to the pathogenesis and progression of diabetes complications
Cellular metabolism is a constant source of reactive oxygen species (ROS). The production of hydrogen peroxide (H2O2) is particularly relevant, due to its role in cellular physiology. H2O2 can act as a classical intracellular signaling molecule in several processes like cell proliferation, hormone synthesis and secretion, immune cell regulation, angiogenesis, and apoptosis. However, H2O2 overproduction and accumulation, derived from increased mitochondrial electron transport chain activity, glucose autoxidation, and increased polyol flux, contribute to an imbalance in the redox state of the cells. High concentration of H2O2 induces cellular dysfunction through oxidation of macromolecules like proteins, lipids, carbohydrates and nucleic acids. H2O2-induced oxidative damage can contribute to the development and progression of degenerative diseases such as diabetes mellitus. Indeed, chronic hyperglycemia has been shown to cause an increased H2O2 concentration and oxidative damage that contribute to the pathogenesis and progression of diabetes complications

Título: Acciones del peróxido de hidrógeno (H2O2) como señalizador redox y como agente de estrés oxidante en la diabetes mellitus electronic resource]

Editorial: 2023

Tipo Audiovisual: reactive oxygen species redox signaling Diabetes oxidative stress peróxido de hidrógeno especies reactivas del oxígeno señalización redox diabetes estrés oxidante hydrogen peroxide

Documento fuente: TIP Revista Especializada en Ciencias Químico-Biológicas, ISSN 2395-8723, Vol. 26, 2023, pag. 1

Nota general: application/pdf

Restricciones de acceso: Open access content. Open access content star

Lengua: Spanish

Enlace a fuente de información: TIP Revista Especializada en Ciencias Químico-Biológicas, ISSN 2395-8723, Vol. 26, 2023, pag. 1

Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es