

Copper, zinc and iron in neurodegenerative diseases (Alzheimer's, Parkinson's and prion diseases).

Autorzy

Henryk Kozłowski
Marek Łuczkowski
Maurizio Remelli
Daniela Valensin

Rok wydania

2012

Czasopismo

Coordination Chemistry
Reviews

Numer woluminu

256

Strony

2129-2141

DOI

10.1016/j.ccr.2012.03.013

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

The basic role of metal ions including copper, zinc and iron in neurological pathologies is generally accepted. The relationship between the development of disease and particular metal ions is very complicated and complex. Thus, comprehension of metal homeostasis, details of transport and interactions with biomolecules is essential for understanding the normal and pathological processes occurring in the living system. Homeostasis of metal ions usually involves a huge set of proteins which regulate the proper metal biology. Disorder in metal homeostasis may result in serious pathologies including neurodegenerative diseases. Metal ions, especially copper, zinc and iron play very important roles in neurodegeneration having impact on both protein structure (misfolding) and oxidative stress. Metal ion binding to proteins involved in neurodegeneration is therefore an important factor for whole brain damage processes. All these aspects are discussed in the review.

Słowa kluczowe

Brain metal homeostasis, Neurodegenerative diseases, Metal binding to neurodegenerative proteins, Protein misfolding, Oxidative stress

Adres publiczny

<https://doi.org/10.1016/j.ccr.2012.03.013>

Strona internetowa wydawcy

<http://www.elsevier.com>