Copper, iron, and zinc ions homeostasis and their role in neurodegenerative disorders (metal uptake, transport, distribution and regulation).

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Streszczenie

Metal ions, especially with high chemical activity (e.g. redox-active Cu and Fe) must be carefully managed in biological systems. The “uncontrolled” activity, e.g. catalysis of Fenton-like reactions by ions like Cu(I) or Fe(II), is so damaging for the biological milieu that right from their entry, metal ions need to be strictly controlled until they arrive at their storage site. This chaperoning occurs usually by proteins which are involved in transport, delivery and distribution processes. In this review some aspects of the metal homeostasis for major metal ions (Cu, Fe, and Zn) are presented. The impact of these metals on some disorders are also discussed.

Słowa kluczowe

Copper, Iron, Zinc, Metal homeostasis, Metal transport, Regulation of metals, Diseases affected by metals

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