

metallothionein iii biological roles pdf

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Book Metallothionein III : biological roles and medical

Focuses on the biological roles and medical implications of metallothioneins, and related chemical and biochemical developments. The contributors present and discuss findings on the roles of Read more...

Metallothionein III : biological roles and medical

The level of metallothionein III mRNA and protein, a brain-specific isoform of metallothionein (MT), was investigated in the brain of MT-I and -II gene knockout (MT-null) mice exposed to 20 Gy whole-body β -irradiation.

Radiation exposure does not alter metallothionein III

Similarly, mobilization of zinc from metallothionein by oxidative stresses may explain its proposed antioxidant function. Apparent good health of metallothionein-deficient mice argues against a critical biological role for metallothionein; however, expression may be critical in times of stress.

Metallothionein Expression in Animals: A Physiological

This summary examines some of the known and hypothesized roles of metallothionein and related proteins in mediating the metal metabolism and toxicity from a chemical perspective. It attempts to examine in kinetic terms how such molecules may exert homeostatic control over the intracellular bioavailability of metal ions to essential enzymatic or other molecular systems.

Roles of metallothionein and related proteins in metal

Metallothionein (MT) was reported to be a potential negative regulator of apoptosis, and various reports have suggested that it may play roles in carcinogenesis and drug resistance, in at least a portion of cancer cells. The author summarizes the current understanding of the molecular functions of MT for tumor cell growth and drug resistance.

Molecular functions of metallothionein and its role in

Given that a number of MT functions are due to its close interaction with zinc ions, it is appropriate to mention zinc and metallothionein roles for easier comprehension separately. However, it should be noted that a separate description is too "textbook-styled", while in vivo systems operate both systems simultaneously.

The Role of Metallothionein in Oxidative Stress

PDF | Sheep metallothionein-III (MT-III) cDNA was isolated from a brain cDNA library and characterized.

(PDF) Sheep have an unusual variant of the brain-specific

Metallothionein-III Prevents γ -Ray-induced 8-Oxoguanine ... Metallothioneins (MT) play an important biological role in preventing oxidative damage to cells. We have ... carcinogenic and neuroprotective role of MT-III. The metallothioneins (MT)¹ are a group of intracellular met-

SUMMARY: Metallothionein (MT) is a ubiquitous protein with a low molecular weight of 6-7 kDa weight and it was first identified ... biological role. In fact, the expression of MT gene in higher species is stimulated by a variety of factors including heavy metals, glucocorticoids, hormones, oxidants, strenuous ...

Metallothionein: An Overview on its Metal

Recent studies on regulation of metallothionein (MT) genes in higher animals and metallobiochemical interactions between MT and target molecules provide further support for a role of MT in metal detoxification.

Metallothionein and its role in toxic metal regulation

Metallothionein genes are organized as multigene families (3) that display developmentally regulated expression patterns (4,5) as well as cell-type-specific regulation (6,7). In addition, the MT primary sequences are highly conserved among vertebrates (1). Collectively, these observations suggest that MTs have an essential cellular role.

Metallothionein - an overview | ScienceDirect Topics

Metallothionein (MT) is a low-molecular-weight, cysteine-rich, metal-binding protein. MT has been proposed as playing an important role in the homeostasis of essential metals, in the detoxication of heavy metals, and in the scavenging of free radicals (KÅrki, 1993; Sato and Bremner, 1993).

Metallothionein-I/II Null Mice Are More Sensitive than

Metallothionein (MT) is a low-molecular-weight, sulfhydryl-rich, metal-binding protein that can protect against the toxicity of cadmium, mercury, and copper. However, the role of MT in arsenic (As ...

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