MT3 binds cadmium

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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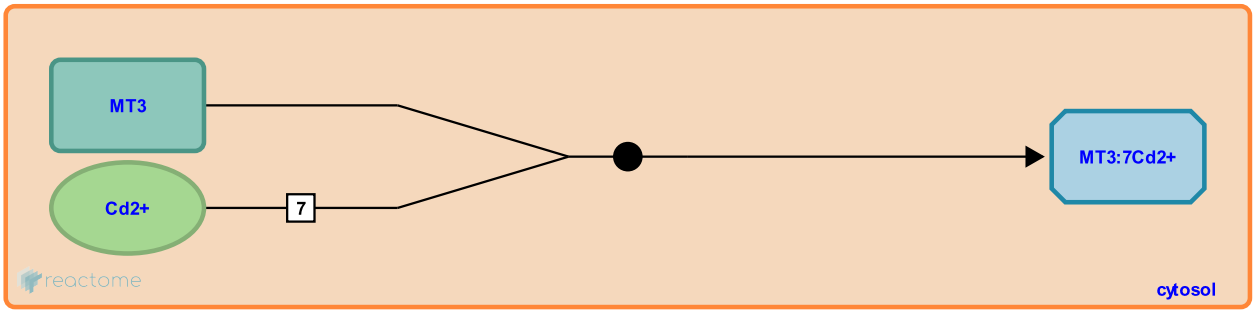
Stable identifier: R-HSA-5662620

Type: binding

Compartments: cytosol



The metallothionein binds 7 atoms of cadmium(II) in 2 clusters, 4 atoms at the C-terminal alpha domain and 3 atoms at the N-terminal beta domain (Palumaa et al. 2002, Palumaa et al. 2005, Wu et al. 2014). MT3 binds cadmium with a lower affinity than MT2A does (Palumaa et al. 2005). MT3 can bind more than 7 cadmium atoms, however the MT3:7Cd2+ complex is most prevalent (Palumaa et al. 2002, Palumaa et al. 2005). Exposure of MT3:7Cd2+ to nitric oxide causes release of cadmium (Wang et al. 2008).

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Editions

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