

	BIOMEDICAL RESEARCH ON TRACE ELEMENTS
Japan Society for Biomedical Research on Trace Elements	
Available Issues Japanese	
Author: <input type="text"/> ADVANCED	Volume <input type="text"/> Page <input type="text"/>
Keyword: <input type="text"/> <input type="button" value="Search"/>	<input type="text"/> <input type="text"/> <input type="button" value="Go"/>



[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1880-1404

PRINT ISSN : 0916-717X

Biomedical Research on Trace Elements

Vol. 15 (2004) , No. 1 69-71

[\[Image PDF \(289K\)\]](#) [\[References\]](#)

Construction of HeLa cell lines overexpressing metallothioneins-1 and -2 and their cytoprotective effects against oxidative damage induced by hydrogen peroxide

[Hiroshi Akita](#)¹⁾ and [Tadashi Niioka](#)¹⁾

1) Graduate School of Environmental Earth Science, Hokkaido University

(Accepted: February 2, 2004)

Abstract:

It has been suggested that metallothioneins (MTs) play a role to protect cells from toxic effects of oxidative stress and heavy metals. On the other hand, the ability of Cu-containing MT to protect cells from oxidative damage is controversial. In the present study, we have constructed HeLa cell lines overexpressing metallothioneins-1E and -2A for the first time, and have examined cytoprotective effects of MT against oxidative damage induced by hydrogen peroxide (H₂O₂) in these cell lines pretreated with or without Cu. As a result, the HeLa cells overexpressing MT have suppressed oxidative damage induced by H₂O₂ at low concentrations of Cu, suggesting that Cu-containing MT has cytoprotective effects against oxidative damage induced by H₂O₂ if the amount of MT is sufficient to contain Cu in the protein and not to liberate Cu bound to it.

Key words: [cell viability](#), [copper](#), [cytoprotective effect](#), [HeLa cell](#), [metallothionein](#), [oxidative stress](#), [overexpression](#)

[\[Image PDF \(289K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

[RIS](#)

[BibTeX](#)

To cite this article:

Hiroshi Akita and Tadashi Niioka, "Construction of HeLa cell lines overexpressing metallothioneins-1 and -2 and their cytoprotective effects against oxidative damage induced by hydrogen peroxide", Biomedical Research on Trace Elements, Vol. **15**, pp.69-71 (2004) .

JOI JST.JSTAGE/brte/15.69

Copyright (c) 2005 by Japan Society for Biomedical Research on Trace Elements



[Japan Science and Technology Information Aggregator, Electronic](#)

