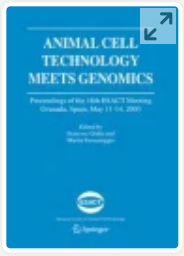


**Animal Cell Technology Meets Genomics** pp 257–260



# Suppression of Oxidative Stress-Induced Apoptosis of Neuronal Cells by Electrolyzed-Reduced Water

T. Kashiwagi, T. Hamasaki, S. Kabayama, M. Takaki, K. Teruya, Y. Katakura, K. Otubo, S. Morisawa & S. Shirahata

Conference paper



Part of the ESACT Proceedings book series (ESACT,volume 2)

## Abstract

We have proposed an active hydrogen reduced water theory that active hydrogen produced by electrolysis of water is stabilized in the form of hydrogenated metal nanocolloids in electrolyzed reduced water (ERW) and scavenges intracellular reactive oxygen species (ROS). Because various brain diseases are caused by oxygen stress, we examined the effect of

ERW on oxidative stress-induced apoptois of neuronal cells. ERW suppressed the $H_2O_2$-induced cell death of mouse neuroblastoma N1E115 cells, rat pheochromocytoma PC12 cells and mouse neuronal stem SFME cells. ERW lowered the intracellular ROS level of N1E115 cells, suppressing the $H_2O_2$-induced decrease of mitochondrial membrane potential and intracellular ATP level, which are markers of apoptosis. These results suggested the effectiveness of ERW for prevention of various brain diseases caused by oxidative stress.

Keywords

**1E115 Cell**

**Intracellular Reactive Oxygen Species Level**

**N1E115 Cell** **Mouse Neuroblastoma N1E11**

**Mouse Neuroblastoma N1E11 Cell**

*These keywords were added by machine and not by the authors. This process is experimental and the keywords may be updated as the learning algorithm improves.*

## Preview

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## Author information

Authors and Affiliations

**Department of Genetic Resources Technology, Faculty of Agriculture, Kyushu University, Fukuoka, 812-8581, Japan**

T. Kashiwagi, T. Hamasaki, M. Takaki, K. Teruya, Y. Katakura & S. Shirahata

**Nihon Trim Co. LTD., Osaka, 531-0076, Japan**

S. Kabayama, K. Otubo & S. Morisawa

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### Cite this paper

Kashiwagi, T. *et al.* (2005). Suppression of Oxidative Stress-Induced Apoptosis of Neuronal Cells by Electrolyzed-Reduced Water. In: Gòdia, F., Fussenegger, M. (eds) Animal Cell Technology Meets Genomics. ESACT Proceedings, vol 2. Springer, Dordrecht. https://doi.org/10.1007/1-4020-3103-3_50

.RIS .ENW .BIB

| DOI | Publisher Name | Print ISBN |
| --- | --- | --- |
| https://doi.org/10.1007/1-4020-3103-3_50 | Springer, Dordrecht | 978-1-4020-2791-8 |

| Online ISBN | eBook Packages |
| --- | --- |
| 978-1-4020-3103-8 | Biomedical and Life Sciences<br>Biomedical and Life Sciences (R0) |