

Name of Journal: *World Journal of Clinical Cases*

Manuscript NO: 57187

Manuscript Type: CASE REPORT

Azacitidine decreases reactive oxygen species production in peripheral white blood cells: A case report

Hasunuma H *et al.* ROS production decreased with recovery of normal hematopoiesis

Hidekazu Hasunuma, Naomi Shimizu, Hiromitsu Yokota, Ichiro Tatsuno

Abstract

BACKGROUND

In myelodysplastic syndrome (MDS), oxidative stress is closely related to iron overload and DNA damage. A recent study suggested the possibility that increased oxidative stress causes not only iron overload but also disease progression of MDS with DNA damage. We present a case of MDS with decreased reactive oxygen species (ROS)

Match Overview

Match Number	Source	Similarity
1	Crossref 61 words Naomi Shimizu, Yasuhiro Watanabe, Noriko Ban, Takashi Yamaguchi et al. "Oxidative Stress Levels Are Correlate ..."	5%
2	Crossref 35 words Seung Han Kim, Bora Keum, Yoon Tae Jeon. "Hemorrhagic Anal Mass", <i>Gastroenterology</i> , 2017	3%
3	Crossref 21 words Hiroaki Tanaka, Naomi Shimizu, Emi Tougasaki, Chika Kawajiri et al. "Successful treatment by azacitidine therapy ..."	2%
4	Crossref 17 words Nour M. Moukalled, Fuad A. El Rassi, Sally N. Temraz, /... T. Taher. "Iron overload in patients with myelodysplastic s"	1%
5	Crossref 14 words Wataru Noguchi, Yoshihiro Inoue, Mana Fukushima. "A ... ase of Prostatic Abscess with Malignant Lymphoma Involv"	1%
6	Internet 11 words crawled on 10-Mar-2016 ar.iiarjournals.org	1%
7	Internet 10 words crawled on 26-Sep-2020 www.wjgnet.com	1%
8	Crossref 8 words Marta Puerto, Noelia Guayerbas, Víctor M Víctor, Mónica De la Fuente. "Effects of N-acetylcysteine on macropha ..."	1%



ALL

IMAGES

VIDEOS

34,600 Results

Any time ▾

[Reactive Oxygen Species Production and Mitochondrial ...](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3948743>

Reactive Oxygen Species Production and Mitochondrial Dysfunction in White Blood Cells Are Not Valid Biomarkers of Ageing in the Very Old Laura Wiley , 1 Deepthi Ashok , 1 Carmen Martin-Ruiz , 1 Duncan C. S. Talbot , 2 Joanna Collerton , 1 Andrew Kingston , 1 Karen Davies , 1 Patrick F. Chinnery , Michael Catt , 1 Carol Jagger , 1 Thomas B. L ...

Cited by: 6

Author: Laura Wiley, Deepthi Ashok, Carmen Mar...

Publish Year: 2014

[The Simultaneous Elevation of Oxidative Stress Markers and ...](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5283969>

Dec 15, 2016 - We evaluated the oxidative stress markers derivatives of reactive oxidative metabolites (dROM) and 8-hydroxy-2'-deoxyguanosine (8-OHdG) during azacitidine treatment in an MDS patient. Simultaneous with an increase in the expression of Wilms' Tumor 1 (WT1) gene in the peripheral blood, the serum dROM level was elevated, and this increase was ...

Cited by: 2

Author: Naomi Shimizu, Hidekazu Hasunuma, Ya...

Publish Year: 2016

[Reactive Oxygen Species Production and Mitochondrial ...](#)

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0091005> ▾

Mar 10, 2014 - Reactive oxygen species (ROS) are highly reactive molecules that contain an unpaired electron capable of taking an electron away from a target molecule in order to restore its stable state. ROS are important in many biological processes such as prostaglandin synthesis, immune defences, various enzymatic reactions and cell signalling processes.

Cited by: 6

Author: Laura Wiley, Deepthi Ashok, Carmen Mar...

Publish Year: 2014

[Alterations in the Reactive Oxygen Species in Peripheral ...](#)

europepmc.org/abstract/MED/28969255 ▾

Reactive Oxygen Species (ROS) are a heterogeneous group of free radicals generated naturally in cellular metabolism from diatomic oxygen. Physiologically, they have a diverse range of functions, ranging from antimicrobial defence in myeloid cells to cell cycle progression, cell motility and growth factor signalling in normal cells [1].



ALL IMAGES VIDEOS

150,000 Results Any time

Reactive Oxygen Species Production and Mitochondrial ...

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0091005>

Mar 10, 2014 · Reliable and valid biomarkers of ageing (BoA) are needed to understand mechanisms, test interventions and predict the timing of adverse health events associated with ageing. Since increased **reactive oxygen species (ROS) production** and mitochondrial dysfunction are consequences of cellular senescence and may contribute causally to the ageing of organisms, we focused on these parameters ...

Cited by: 6 **Author:** Laura Wiley, Deepthi Ashok, Carmen Martin...
Publish Year: 2014

Involvement of reactive oxygen species in adaphostin ...

<https://ashpublications.org/blood/article/102/13/...>

Dec 15, 2003 · (E) **Peripheral blood mononuclear cells** from a patient with CML were incubated with the indicated agent for 24 hours, washed, and assayed for granulocyte colonies as previously described. 19 Similar results were obtained using **cells** from 2 additional patients with CML. (F) **K562 cells** were incubated in the presence of the indicated agent for 8 hours.

Cited by: 99 **Author:** Joya Chandra, Jennifer Hackbarth, Son Le, ...
Publish Year: 2003

Reduction in Reactive Oxygen Species Production by ...

<https://diabetes.diabetesjournals.org/content/60/8/2051>

Aug 01, 2011 · OBJECTIVE Aging increases the risk of developing impaired glucose tolerance (IGT) and type 2 diabetes. It has been proposed that increased **reactive oxygen species (ROS)** generation by dysfunctional mitochondria could play a role in the pathogenesis of these metabolic abnormalities. We examined whether aging per se (in subjects with normal glucose tolerance [NGT]) impairs ...

Cited by: 106 **Author:** Sangeeta Ghosh, Raweewan Lertwattanara...
Publish Year: 2011

Oxidative stress and antioxidant treatment in patients ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5880878>

Apr 02, 2018 · Effort induced cycles of ischemia and reperfusion lead to increased **reactive oxygen species production** by mitochondria. Therefore, the pathophysiology of **peripheral artery disease** is a consequence of metabolic myopathy, and oxidative stress is the putative major operating mechanism behind the structural and metabolic changes that occur in muscle.

Cited by: 10 **Author:** Panagiotis Koutakis, Ahmed Ismaeel, Patri...
Publish Year: 2018

Hemolytic jaundice induced by pharmacological dose ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6319863>

Reactive oxygen species (ROS) are constantly generated by exogenous and endogenous sources in all cells. Protection against oxidative damage largely relies on the reductive power of NADPH. [1,4] There are multiple mechanisms to neutralize the harmful free-radical species (such as ROS) by synthesizing antioxidants to combat oxidative stress. One ...

Cited by: 7 **Author:** Shuxie Wu, Gao Wu, Hanbin Wu
Publish Year: 2018

Metallosis mimicking a metabolic disorder: a case report

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6159344>

Sep 25, 2018 · Toxic neuropathy can be associated with ototoxicity caused by the **production** and action of **reactive oxygen species** on basal outer hair cells that appear to be very sensitive. **Reactive oxygen species** can deplete cochlear tissues of antioxidant protective molecules, for example, glutathione and antioxidant enzymes [5].

Reactive Oxygen Species: A Key Hallmark of Cardiovascular ...

<https://www.hindawi.com/journals/amed/2016/9152732>

A chain reaction leads to the **production** of many **reactive oxygen species** from one ROS (Figure 1). For example, the reactions of radicals and fatty acids (polyunsaturated fatty acids, PUFAs) within the cytoplasmic membrane result in a fatty acid peroxy radical which can attack the adjacent side chain of the fatty acid and commence **production** of ...

Efficient mitochondrial biogenesis drives incomplete ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3914475>

Dec 24, 2013 · All three LHON primary mutations ultimately decrease complex I-driven ATP synthesis rate, and in addition, chronically increase **reactive oxygen species production** and predispose cells to apoptosis (Vergani et al., 1995; Ghelli et al., 2003; Baracca et al., 2005; Floreani et al., 2005). Different views have emphasized the bioenergetic defect as ...

Peripheral artery disease, redox signaling, oxidative ...

<https://www.sciencedirect.com/science/article/pii/S2213231717300265>

Aug 01, 2017 · **Reactive oxygen** and nitrogen species (ROS and RNS, e.g. H₂O₂, nitric oxide) confer redox regulation of essential cellular signaling pathways such as cell differentiation, proliferation, migration and apoptosis. At higher concentrations, ROS and RNS lead to oxidative stress and oxidative damage of biomolecules (e.g. via formation of peroxynitrite, fenton chemistry).

An Introduction to Reactive Oxygen Species - Measurement ...

<https://www.biotech.com/resources/white-papers/an...>

Introduction

Discussion

References

Reactive Oxygen Species (ROS) is a phrase used to describe a number of reactive molecules and free radicals derived from molecular oxygen. The production of oxygen based radicals is the bane to all aerobic species. These molecules, produced as byproducts during the mitochondrial electron transport of aerobic respiration or by oxidoreductase enzymes and metal catalyzed oxidation, have the potential to cause a number of deleterious events. It was originally thought that only phagocytic cells we...

See more on biotech.com

Some results are removed in response to a notice of local law requirement. For more information, please see [here](#).

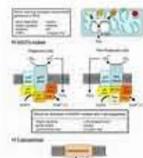
1 2 3 4 5 >



Am I the most talkative search engine you have ever used?

Say something...

Reactive Oxygen Species



Reactive oxygen species (ROS) are chemically reactive chemical species containing oxygen. Examples include peroxides, superoxide, hydroxyl radical, singlet oxygen, and alpha-oxygen.

Wikipedia

Higher classification: Free Radicals

People also search for

See all (5+)



Radical

Mitochondri
al ROS

DNA repair

Mitochondri
al DNADNA
damage

Data from: Wikipedia · Freebase

Suggest an edit

Search Tools

Turn off Hover Translation (关闭取词)



ALL

IMAGES

VIDEOS

MAPS

NEWS

SHOPPING

89,300 Results

Any time ▾

[Reactive Oxygen Species Production and Mitochondrial ...](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3948743>

Reactive Oxygen Species Production and Mitochondrial Dysfunction in **White Blood Cells** Are Not Valid Biomarkers of Ageing in the Very Old Laura Wiley , 1 Deepthi Ashok , 1 Carmen Martin-Ruiz , 1 Duncan C. S. Talbot , 2 Joanna Collerton , 1 Andrew Kingston , 1 Karen Davies , 1 Patrick F. Chinnery , 3 Michael Catt , 1 Carol Jagger , 1 Thomas B. L ...

Cited by: 6**Author:** Laura Wiley, Deepthi Ashok, Carmen Mar...**Publish Year:** 2014

[Reactive Oxygen Species Production and Mitochondrial ...](#)

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0091005> ▾

Mar 10, 2014 · Reliable and valid biomarkers of ageing (BoA) are needed to understand mechanisms, test interventions and predict the timing of adverse health events associated with ageing. Since increased **reactive oxygen species** (ROS) **production** and mitochondrial dysfunction are consequences of cellular senescence and may contribute causally to the ageing of organisms, we focused on these parameters ...

Cited by: 6**Author:** Laura Wiley, Deepthi Ashok, Carmen Mar...**Publish Year:** 2014

[Oxidative stress and antioxidant treatment in patients ...](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5880878>

Apr 02, 2018 · Effort induced cycles of ischemia and reperfusion lead to increased **reactive oxygen species production** by mitochondria. Therefore, the pathophysiology of **peripheral** artery disease is a consequence of metabolic myopathy, and oxidative stress is the putative major operating mechanism behind the structural and metabolic changes that occur in muscle.

Cited by: 10**Author:** Panagiotis Koutakis, Ahmed Ismaeel, Pat...**Publish Year:** 2018