

free radical biology and medicine impact factor 2023

free radical biology and medicine impact factor 2023 represents a critical metric for evaluating the influence and prestige of the journal within the scientific community. As a leading publication in the fields of oxidative stress, free radical research, and related biomedical sciences, this impact factor serves as a benchmark for researchers, institutions, and libraries when assessing the journal's importance. This article delves into the specifics of the free radical biology and medicine impact factor 2023, exploring its significance, calculation methodology, and comparative standing among peer journals. Additionally, the discussion extends to how this metric influences manuscript submissions, funding opportunities, and academic recognition. By providing an authoritative overview, this article aims to guide researchers and stakeholders in understanding the broader implications of the journal's impact factor in 2023.

- Understanding the Free Radical Biology and Medicine Impact Factor 2023
- Calculation Methodology of the Impact Factor
- Comparison with Other Journals in the Field
- Significance for Researchers and Institutions
- Factors Influencing the Impact Factor
- Future Trends and Predictions

Understanding the Free Radical Biology and Medicine Impact Factor 2023

The **free radical biology and medicine impact factor 2023** quantifies the average number of citations received in 2023 by articles published in the journal during the preceding two years. This metric reflects the journal's reputation and influence within the scientific community, particularly in the domains of oxidative stress, cellular damage, and molecular mechanisms of free radicals. Researchers use the impact factor as a proxy for journal quality, guiding decisions on where to publish and which sources to prioritize for literature review. The 2023 impact factor is a culmination of ongoing editorial efforts, quality of published research, and the journal's ability to attract high-impact studies.

Definition and Scope

The impact factor is calculated annually by indexing agencies and published in journal citation reports. For free radical biology and medicine, this figure encompasses citations related to studies

on oxidative damage, antioxidant mechanisms, and the role of free radicals in disease pathology. The journal's multidisciplinary approach spans biochemistry, molecular biology, pharmacology, and clinical research, making its impact factor relevant to a broad scientific audience.

Historical Performance

Over the past decade, the journal has demonstrated consistent growth in its impact factor, reflecting increased recognition and citation frequency. Tracking the evolution of the free radical biology and medicine impact factor 2023 against previous years reveals trends in research interest and publication quality within the oxidative stress field.

Calculation Methodology of the Impact Factor

The methodology underlying the **free radical biology and medicine impact factor 2023** adheres to established citation analysis protocols. Understanding this calculation is essential for interpreting the impact factor accurately and assessing the journal's standing.

Formula for Impact Factor

The impact factor is calculated by dividing the number of citations in 2023 to articles published in the journal during 2021 and 2022 by the total number of "citable items" published in those two years. Citable items typically include original research articles and reviews, excluding editorials and letters.

1. Count citations in 2023 to articles published in 2021 and 2022.
2. Count the total number of citable articles published in 2021 and 2022.
3. Divide the total citations by the total citable articles to obtain the impact factor.

Data Sources and Indexing

Data for the calculation of the impact factor are sourced from citation databases such as Web of Science and Scopus. The accuracy of these databases and their coverage of relevant journals directly influence the reported value of the free radical biology and medicine impact factor 2023.

Comparison with Other Journals in the Field

Benchmarking the **free radical biology and medicine impact factor 2023** against peer journals provides context for its academic influence and competitive positioning within oxidative stress research and related biomedical disciplines.

Top Journals in Oxidative Stress and Free Radical Research

Journals specializing in free radical biology, antioxidant research, and molecular medicine vary in scope and impact factor. Comparing these publications helps researchers identify leading outlets and assess where free radical biology and medicine stands in terms of citation impact.

- Free Radical Biology & Medicine
- Antioxidants & Redox Signaling
- Redox Biology
- Journal of Biological Chemistry
- Oxidative Medicine and Cellular Longevity

Impact Factor Rankings and Trends

The 2023 impact factor positions free radical biology and medicine among the top-tier journals in its niche. Trends indicate a steady rise in citation metrics, attributed to the journal's focus on cutting-edge research, multidisciplinary studies, and clinical relevance.

Significance for Researchers and Institutions

The **free radical biology and medicine impact factor 2023** holds substantial weight for authors, research institutions, and funding bodies. Its value extends beyond numbers, influencing academic careers and resource allocation.

Implications for Manuscript Submission

Authors often prioritize journals with higher impact factors to maximize the visibility and citation potential of their work. The impact factor influences the perceived prestige and reach of published studies, affecting decisions on where to submit manuscripts.

Role in Academic Evaluation

Institutions and funding agencies utilize impact factors as part of research assessment exercises, tenure evaluations, and grant reviews. A strong impact factor like that of free radical biology and medicine enhances the reputation of affiliated researchers and departments.

Factors Influencing the Impact Factor

Several elements affect the **free radical biology and medicine impact factor 2023**, from editorial policies to citation behaviors within the scientific community.

Quality and Relevance of Published Research

The journal's commitment to publishing high-quality, innovative research attracts citations. Topics with broad biomedical implications and timely focus on emerging issues tend to garner more attention.

Editorial and Publication Strategies

Strategies such as special issues, invited reviews, and rapid publication timelines can enhance citation rates. The journal's editorial board plays a pivotal role in maintaining standards and selecting impactful content.

Community and Citation Practices

The size and activity of the research community focusing on free radical biology and medicine influence citation frequency. Collaborative research, interdisciplinary studies, and open access options also contribute to the citation landscape.

Future Trends and Predictions

Analyzing current trajectories provides insight into the potential development of the **free radical biology and medicine impact factor 2023** and beyond. Emerging research areas and technological advances are likely to shape citation dynamics.

Emerging Research Directions

Innovations in redox biology, personalized medicine, and novel antioxidant therapies are expected to drive new research outputs, potentially increasing citation rates for journals that capture these trends.

Technological and Publishing Innovations

Advancements in digital publishing, preprint dissemination, and data-sharing platforms may influence how citations accumulate, potentially impacting future impact factors.

Recommendations for Stakeholders

Researchers and institutions should monitor evolving publication metrics and adapt strategies to maintain and enhance the visibility of their work within high-impact journals like free radical biology and medicine.

Frequently Asked Questions

What is the impact factor of Free Radical Biology and Medicine for 2023?

The impact factor of Free Radical Biology and Medicine for 2023 is approximately 7.7.

How has the impact factor of Free Radical Biology and Medicine changed in recent years?

The impact factor of Free Radical Biology and Medicine has shown a steady increase over recent years, reflecting its growing influence in the fields of oxidative stress and free radical research.

Where can I find the official 2023 impact factor for Free Radical Biology and Medicine?

The official 2023 impact factor can be found on the Journal Citation Reports (JCR) website provided by Clarivate Analytics or on the journal's official homepage.

What factors contribute to Free Radical Biology and Medicine's impact factor?

Factors include the number of citations its articles receive, the quality and relevance of published research, and the journal's reputation in free radical and oxidative stress research communities.

How does Free Radical Biology and Medicine's 2023 impact factor compare to similar journals?

With an impact factor around 7.7, Free Radical Biology and Medicine ranks competitively among journals focusing on oxidative stress, biochemistry, and molecular biology, often placing it in the upper quartile of related journals.

Why is the impact factor important for Free Radical Biology and Medicine authors?

The impact factor is important as it reflects the journal's prestige and reach, influencing authors' decisions to submit manuscripts and affecting the visibility and citation potential of their published work.

Additional Resources

1. *Free Radical Biology and Medicine: Mechanisms and Clinical Implications*

This book provides a comprehensive overview of the biochemical mechanisms underlying free radical formation and their roles in various diseases. It bridges the gap between basic science and clinical practice, highlighting therapeutic approaches to mitigate oxidative stress. Ideal for researchers and clinicians interested in oxidative damage and its pathological consequences.

2. *Oxidative Stress and Free Radical Damage in Neurodegenerative Diseases*

Focusing on neurodegeneration, this title explores the contribution of free radicals to diseases such as Alzheimer's, Parkinson's, and ALS. It discusses molecular pathways, biomarkers, and potential antioxidant therapies. The book is valuable for neuroscientists and medical professionals aiming to understand oxidative stress in brain disorders.

3. *Antioxidants in Free Radical Biology and Medicine: From Bench to Bedside*

This book examines the role of antioxidants in counteracting free radical-induced damage and their therapeutic potential. It covers natural and synthetic antioxidants, clinical trials, and future research directions. A useful resource for pharmacologists, clinicians, and researchers working on antioxidant interventions.

4. *Redox Signaling and Free Radicals in Cellular Physiology*

Delving into the signaling roles of free radicals, this text highlights how redox biology influences cell function, gene expression, and homeostasis. It discusses the dual nature of reactive oxygen species as both damaging agents and signaling molecules. Suitable for students and scientists studying cell biology and molecular medicine.

5. *Free Radicals, Inflammation, and Cancer: Molecular Mechanisms and Therapeutic Perspectives*

This book addresses the interplay between oxidative stress, chronic inflammation, and cancer development. It provides insights into molecular pathways linking free radicals to tumorigenesis and explores strategies to target oxidative stress in cancer therapy. Essential reading for oncologists and researchers in cancer biology.

6. *Environmental Free Radicals and Human Health: Exposure, Effects, and Prevention*

Focusing on environmental sources of free radicals such as pollution and radiation, this volume discusses their impact on human health. It reviews epidemiological data, mechanisms of toxicity, and preventive measures. Public health professionals and environmental scientists will find this book particularly useful.

7. *Free Radical Damage in Cardiovascular Diseases: Pathogenesis and Treatment*

This title explores the role of oxidative stress in the pathogenesis of cardiovascular diseases, including atherosclerosis and hypertension. It discusses diagnostic markers, molecular mechanisms, and antioxidant-based therapies. Cardiologists and biomedical researchers will benefit from its in-depth analysis.

8. *Free Radical Biology and Medicine: Advances in Analytical Techniques*

Focusing on the methodologies to detect and quantify free radicals and oxidative damage, this book reviews cutting-edge analytical and imaging technologies. It highlights advances that have propelled research in free radical biology. Researchers and laboratory technicians will find practical guidance and protocols.

9. *Nutrition, Free Radicals, and Human Health: The Role of Diet in Oxidative Stress*

This book examines how diet influences free radical production and antioxidant defense systems. It covers the impact of various nutrients, dietary patterns, and supplements on oxidative stress and related diseases. Nutritionists, dietitians, and health professionals will gain valuable insights into diet-based interventions.

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free radical biology and medicine impact factor 2023: Redox Signaling, 2024-08-01

Advances in Cancer Research, Volume 162 highlights new advances in the field, with this new volume presenting interesting chapters written by an international board of authors - Provides the authority and expertise of leading contributors from an international board of authors - Presents the latest release in the ACR series - Updated release includes the latest information on the Advances in Cancer Research

free radical biology and medicine impact factor 2023: Plant Derived Bioactive

Compounds in Human Health and Disease Surajit Pathak, Antara Banerjee, 2024-12-10 This book offers a comprehensive review of the multifaceted role of phytochemicals in promoting human health and combating diseases. The initial chapters introduce phytochemicals, navigate the natural health landscape, and provide a foundational understanding of these bioactive compounds. The book unfolds the role of phytochemicals as a formidable defense against oxidative stress and explores the unique health benefits and nutritional significance of phytochemicals found in fruit peels. The subsequent chapters further discuss the therapeutic potential of phytochemicals, detailing their role in combating multidrug-resistant bacterial infections and modulating critical pathways in inflammation and cancer. This book also highlights the novel treatment strategies for amyloidosis using natural products, as well as the fascinating interplay between natural compounds and biogenic nanoparticles in the context of polycystic ovarian syndrome (PCOS). Further exploration includes the impact of plant-derived compounds on cancer stem cells and the recent advancements in ethnopharmacology for age-related brain disorders. Each chapter provides a thorough and up-to-date analysis of research findings, clinical applications, and future directions within the field. By presenting a holistic view of the diverse functions and benefits of phytochemicals, this book aims to inspire further investigation and innovation in this dynamic area of research, ultimately contributing to enhanced human health and well-being.

free radical biology and medicine impact factor 2023: Reactive Oxygen Species in

Cardiometabolic Syndrome, Neuronal Diseases and Cancer Esma Isenovic, Jasjit S. Suri, 2025-07-01 Reactive Oxygen Species in Cardiometabolic Syndrome, Neuronal Diseases and Cancer: From Bench to its Potential Therapeutics systematically summarizes findings concerning the biochemical properties of various reactive oxygen species (ROS). The book opens with foundational coverage of ROS, ROS signaling, as well as the role of ROS in controlling gene expression. Subsequent chapters cover molecular mechanisms of ROS, regulation of gene expression, and antioxidant supplementation with cardiometabolic syndrome, various neuronal diseases, and cancer. It concludes with recent findings on therapeutic modulations of intracellular levels of ROS, which may significantly impact the development of novel agents for treating the conditions covered. This is a must-have reference for scientists and medical professionals seeking to enhance their knowledge of

ROS research and the impact on treatments for cardiometabolic syndrome, neuronal diseases, and cancer. - Provides a foundation on reactive oxygen species (ROS), ROS signaling, and regulation of gene expression - Presents an overview of the molecular mechanisms of ROS in reactive oxygen species in cardiometabolic syndrome, specific neural diseases, and cancer - Reviews recent findings on ROS and regulation of gene expression - Covers the effects of antioxidant supplementation

free radical biology and medicine impact factor 2023: Peroxiporins Iria

Medraño-Fernandez, Gerd Patrick Bienert, Roberto Sitia, 2023-10-11 To produce energy, aerobic organisms transform oxygen molecules into water. This reductive mechanism yields toxic radical intermediates, collectively known as reactive oxygen species (ROS). Paradoxically, these physiological processes entail the production of potentially damaging species. Evolution has turned this apparent disadvantage into an opportunity for transmitting information. As a result, redox signaling within the cell is an efficient exquisitely organized process. A key element for its regulation is the physical separation of sources and targets into different cell compartments. Peroxiporins, H₂O₂ transporting proteins spanning biological membranes, distribute the signal from emitters to receptors. Thus, these channels are strategically situated in the thin line between life and death, guaranteeing adequate but safe signaling. Key Features: - Provides a brief history of the discovery and characterization of peroxiporins - Reviews key findings on hydrogen peroxide transport across biological membranes - Discusses the cartography of redox signaling in crowded cells - Includes lavish illustrations and comprehensive images to facilitate teaching - Highlights recent findings, outstanding controversies and open questions

free radical biology and medicine impact factor 2023: Essential Guide to

Neurodegenerative Disorders Wael Mohamed, 2024-11-24 Handbook of Neurodegenerative Disorders: Mechanism, Diagnostic and Therapeutic Advances provides a comprehensive review on the current biomedical studies aimed at identifying the underlying causes of neurodegeneration. This book reviews the most recent developments in molecular and cellular processes altered during neurodegeneration. Divided into four parts, the first covers the mechanism of cell death in neurodegeneration. The second section reviews the recent progress in gene and gene products in neurodegeneration, including Huntington's disease, Parkinson's disease, Friedreich's ataxia, and spinal muscular atrophy. The final sections cover the current and future diagnostic techniques of neurodegenerative disorders along with therapeutic approaches. - Reviews big data and neurodegeneration disorders, including gene mapping - Examines the structural basis of protein assembly into amyloid filaments in neurodegenerative disease - Covers the progress and challenges of pharmacotherapy of neurodegenerative disorders

free radical biology and medicine impact factor 2023: Cereal Grains Sukhvinder Singh

Purewal, 2025-08-29 Cereal grains are a major part of the global diet, but their nutritional benefits depend on how they are processed. This book explores how various techniques influence nutrient content, bioavailability, and food quality. It provides a clear understanding of traditional and modern processing methods, helping professionals optimize grain-based products. This book provides updated information on innovative grain processing techniques and demonstrates how different methods affect dietary value. Helpful for the industrial sector as well as serving as a reliable source for food science and nutrition studies, this book bridges the gap between research and real-world applications, ultimately offering practical and meaningful information for improving cereal-based, health-benefiting food products. Key Features Provides comprehensive knowledge on different kinds of cereal processing methods Presents the latest information on the effect of processing methods on the specific nutrients (macro as well as micro) of cereal grains Includes techniques to minimize nutrients loss

free radical biology and medicine impact factor 2023: The Longevity Nutrient Stephanie

Venn-Watson, 2025-03-25 Unlock the secret to longevity with Dr. Stephanie Venn-Watson's groundbreaking research of the molecule C15:0—an essential fat found in whole milk, cheese, and fatty fish—that can improve your health and increase your lifespan. The hunt for the holy grail of healthy aging has been ongoing for hundreds of years, and Dr. Stephanie Venn-Watson may be its

most unlikely champion. As a veterinary epidemiologist, she was recruited by the US Navy to lead a clinical research program to improve the health of Navy dolphins. Using advanced biotechnology to study the healthiest aging dolphins, she discovered C15:0, a saturated fat which has the potential to expand both the health-span and lifespan in long-lived mammals. In *The Longevity Nutrient*, Dr. Venn-Watson unveils the science behind C15:0, the first essential fatty acid to be discovered in nearly a hundred years. This revolutionary discovery identifies the crucial ingredient for combating chronic aging-associated diseases. This book unfolds like a detective story, bringing you along through the science and discovery of this extraordinary nutrient. The implications of adding this nutrient back into the American diet could not be more significant. Mounting scientific evidence supports that C15:0 can: -Reduce the risk of and reverse fatty liver disease -Reduce the risk of and reverse type 2 diabetes and heart disease -Meaningfully slow the effects of aging to improve overall well-being Perhaps the most surprising discovery? In the end, it may just be the saturated fat that saves us all. In this book, Dr. Venn-Watson tells the extraordinary story of this discovery and examines the paradigm shifting implications for human health and aging. She presents the easy, practical steps for you to responsibly bring this essential C15:0 fat into your life to improve your long-term health and wellness.

free radical biology and medicine impact factor 2023: Targeting Protein-Protein Interactions for Drug Discovery Jian Zhang, 2026-01-12 Provides comprehensive up-to-date information on current topics in protein-protein interaction drug discovery.

free radical biology and medicine impact factor 2023: Volume 2: Thalassotherapy and Cosmeceuticals M. Lourdes Mourelle, Haresh S. Kalasariya, 2025-05-14 The book is a comprehensive review of thalassotherapy and seawater cures, and the cosmeceuticals derived from marine algae as novel sources of cosmetic ingredients. This comprehensive text offers an in-depth exploration of the research and issues related to the use of seawater and marine environment for therapies, as well as the composition of cosmeceuticals derived from seaweed. With contributions from an international team of experts, the book describes the amazing field of thalassotherapy, highlighting the characteristics of seawater, the techniques of applying seawater and the mechanisms of action, as well as the climatic factors that complement marine therapies. Of particular relevance are cosmeceuticals derived from seaweed, which have been the subject of intense research in recent years. In addition, highly topical aspects are addressed, such as nutrition linked to thalassotherapy.

free radical biology and medicine impact factor 2023: New Developments in Redox Biology Asim K. Duttaroy, Atala Bihari Jena, 2025-09-01 *New Developments in Redox Biology: Fundamental Roles in Health and Disease* offers a comprehensive exploration of the influence of the redox system and the complex relationships between oxidative stress, biological development, health and disease. Divided into three sections, it explores the role of the redox system across developmental biology, non-communicable diseases, and infectious diseases. The first section includes chapters exploring oxygen availability in embryonic development, the influence of stress factors and intra-cellular signalling during embryogenesis, and how stem cells maintain homeostasis under oxidative stress. Section two considers topics such as the origin of cancer stem cells related to hypoxia, redox-related biomarkers in tumorigenesis and metabolic disorders, and the role of oxidation and reduction systems in autoimmune disorders and neurodegeneration. The final section focuses on redox regulation in infectious illness and includes chapters on redox biomarkers in host-pathogen interaction, the role of redox control in zoonotic diseases, and the significance of hypoxia on the ability of microbial pathogens to invade the gut. Antiviral drugs and the use of redox regulation in their mechanism of action is also explored. *New Developments in Redox Biology: Fundamental Roles in Health and Disease* offers a multidisciplinary approach to the topic, providing valuable insights to those seeking to expand their expertise in redox biology and its implications for human health and disease. In particular, researchers and advanced students working across molecular biology, cell biology, biochemistry, developmental biology and related fields will find this book useful. - Explores the fundamental role of redox biology in developmental processes and cellular homeostasis -

Investigates the impact of oxidative stress on non-communicable diseases, including cancer, metabolic, and autoimmune disorders - Examines redox regulation in infectious diseases and host-pathogen interactions - Provides detailed insights into redox-related biomarkers and their diagnostic and therapeutic potential - Equips readers with cutting-edge knowledge on redox biology through multi-omics approaches

free radical biology and medicine impact factor 2023: From Ancient Roots to Nano Routes: Targeted Delivery of Ginkgo and Gastrodia for Parkinson's Disease (PD) Treatment

Siva Krishna Adithya Bhumireddy, Anil Kumar Vadaga, Sai Shashank Gudla, Kusuma Kumari R, Hirdesh Bharti, Shakhi Shylesh, Aditya Nayak, Sudeshna Mohapatra, Shudesna Sarkar, Karuna Shankar Rathour, Kuldeep Singh, Divyanshi Saxena, Sharmistha Hazra, Yamuna Kumar, Srushti Bhimrao Kumbhar, Prerana S. Pawar, Sushant M. Ahire, Shivraj P. Jadhav, Chandrashekhar D. Patil, Sunil K. Mahajan, Atchutuni V S Ravi Sai Nadh, Sk. Iaefath Naaz, Mohammed Rehan, Km. Shweta Singh, Arushi, Nivedita Adhikari, Reena, Vijay Sharma, Subhanshi Vishwas, Pooja Tiwari, Jeevan Gowda, Mallamma T, Prakash Goudanavar, Butchi Raju Akondi, Anshika Garg, Ayushi Rajput, Anuradha Verma, Susovan Borat, Jyoti Jwala, Sonal Sharma, Himanshi, Basharat Nawaz, Sudipa Debnath, Radia Khushi, Kajal Sharma, Binita Ghosh, 2025-09-13 It is with immense pride and gratitude that I present this edited volume, "From Ancient Roots to Nano Routes: Targeted Delivery of Ginkgo and Gastrodia for Parkinson's disease (PD) Treatment" This book brings together the collective wisdom of researchers, clinicians, and academicians who are working at the intersection of traditional herbal medicine and cutting-edge nanotechnology, aiming to create more effective, targeted, and patient-centered therapeutic strategies for PD. The vision behind this book is to bridge the timeless legacy of natural remedies with the transformative potential of modern nanomedicine. PD, with its complex and multifactorial pathology, demands approaches that go beyond conventional therapies. By exploring the neuroprotective properties of Ginkgo biloba and Gastrodia elata, and advancing their potential through nanocarrier-based delivery systems, this volume highlights a holistic and innovative path forward.

free radical biology and medicine impact factor 2023: Ultra-Weak Photon Emission from Biological Systems Ilya Volodyaev, Eduard van Wijk, Michal Cifra, Yury A. Vladimirov, 2023-12-13 This book addresses the phenomenon of biological autoluminescence (also known as ultraweak photon emission, UPE, biochemiluminescence, or biophotons) and deals with a very broad spectrum of subjects, ranging from basic observational studies to molecular mechanisms, free-radical processes, physics of electron excitation and photon emission, as well as detection techniques. The chapter topics include UPE in plants, animals, and the human body; microorganisms and subcellular structures; and model systems, illustrating its high prevalence. Several sections of the book provide some backstory, with emphasis on methodology, unresolved questions, and existing controversies. The authors raise and discuss complex, potentially divisive aspects: Are there any reasons to assume the existence of non-chemical interaction in biological systems? Can research results in the field of mitogenetic radiation, delayed luminescence, and oxychemiluminescence of model systems, be correctly interpreted? What does the future hold for this area of research? Altogether, this publication gives the reader a thorough overview of biological autoluminescence (UPE, biophotonics) research, making it ideal for students and researchers who are new to the area as well as those who are specializing in it.

free radical biology and medicine impact factor 2023: Nanotechnology for Abiotic Stress Tolerance and Management in Crop Plants Ramesh Namdeo Pudake, Ravi Mani Tripathi, Sarvajeet Singh Gill, 2024-03-13 Nanotechnology for Abiotic Stress Tolerance and Management in Crop Plants reviews the most recent literature on the role of nanomaterials in achieving sustainability in crop production in stressful environments. This book explores the adverse conditions caused by abiotic stress to crop plants, and the methods by which these conditions can be potentially overcome through developments in nanoscience and nanotechnology. Abiotic stresses such as drought, salinity, temperature stress, excessive water, heavy metal stress, UV stress etc. are major factors which may adversely affect the growth, development, and yield of crops. While recent

research for ways of overcoming the physiological and biochemical changes brought on by these stresses has focused on genetic engineering of plants, additional research continues into alternative strategies to develop stress tolerant crops, including the use of nanoscience and nanotechnology. Providing an in-depth summary of research on nanomaterials and nano-based devices for field monitoring of crops, this book will serve as an ideal reference for academics, professionals, researchers, and students working in the field of agriculture, nanotechnology, plant science, material science, and crop production. - Presents advancements in our understanding of molecular and physiological interactions between nanoparticles and crop plants - Includes figures and illustrations to help readers visualize and easily understand the role of nanomaterials - Serves as an ideal reference for those studying smart nanomaterials, biosensors, and nanodevices for real-time plant stress measurement

free radical biology and medicine impact factor 2023: Advances in Cancer Research , 2024-09-19 the latest release in this ongoing, well-regarded serial, provides invaluable information on the exciting and fast-moving field of cancer research, with this updated edition covering chapters on A bioinformatic-driven prediction of MDA9 transcriptional variants' roles in cancer progression and treatment, Redox, cysteines, and kinases - A triad sustaining myeloid leukemia, The RAF cysteine-rich domain: structure, function, and role in disease , Membrane Potential: a new hallmark of cancer, Recent Advances and Progress in Immunotherapy of Solid Cancers, and much more. Other sections explore Precision Medicine: Non-Invasive Therapeutic Agent Delivery with Focused Ultrasound and Microbubbles and Anti-Cancer Activity of Capsaicin and its Analogs in Gynecological Cancers. - Provides the latest information on cancer research - Offers outstanding and original reviews on a range of cancer research topics - Serves as an indispensable reference for researchers and students alike

free radical biology and medicine impact factor 2023: Regulated Cell Death in Neurodegenerative Disorders Heba Mohamed Mansour, Aiman Saad El-Khatib, 2025-06-29 Regulated Cell Death in Neurodegenerative Disorders is a comprehensive exploration of the mechanisms and implications of RCD within the realm of neurodegenerative diseases. The book delves into various forms of RCD such as apoptosis, necroptosis, ferroptosis, pyroptosis, and autophagy-mediated cell death, shedding light on their specific roles in disorders like Alzheimer's, Parkinson's, Multiple sclerosis, Amyotrophic lateral sclerosis, and Huntington's. Written by leading experts, each chapter offers unique insights into cellular demise, providing valuable information on treatment options and therapeutic targets. The book features 14 chapters that cover molecular, cellular, and pharmacological mechanisms from an applied science perspective. Topics include the importance of chaperones, kinases, growth factors, inflammaging, mitochondrial dynamics, and oxidative stress. It presents targeted strategies to prevent cell death, reflecting ongoing pursuits in understanding and innovating treatments for neurodegenerative diseases. By offering therapeutic strategies to modulate RCD, this book not only shares knowledge but also provides hope for future advancements in combating these debilitating conditions. - Provides a comprehensive overview of different types of RCD - Dissects the crosstalk between different types of RCD - Explores the relevance of RCD mechanisms to neurodegenerative disorders, including Alzheimer's disease, Parkinson's disease, Multiple sclerosis, Amyotrophic lateral sclerosis, and Huntington's disease - Examines several forms of regulated cell death, including apoptosis, necroptosis, ferroptosis, pyroptosis, and autophagy-mediated cell death - Discusses the effect of Inflammaging and oxidative stress on different types of RCD - Delves into the effect of chaperones, kinases, and growth factors on different RCD machineries - Discusses the potential of targeted therapies aimed at interdicting cell death machineries - Explores disease-modifying agents targeting RCD in neurodegenerative disorders

free radical biology and medicine impact factor 2023: Selenium in ruminant nutrition and health Peter Surai, 2024-05-21 Selenium (Se) is an essential dietary trace element participating in the regulation of various physiological functions in humans and farm animals through its incorporation into a range of selenoproteins. Low Se content in main feed ingredients is a common

problem worldwide and dietary Se supplementation is a current practice in ruminant nutrition. Recent research clearly proved that sodium selenite, used for the last 50 years as a feed supplement, is not an optimal form of Se. However, use of organic selenium in dairy and beef diets can help meet Se requirement and maintain health/high immunocompetence, productive and reproductive performance. The goal of this book is to provide up-to-date information about the roles of Se in ruminant nutrition and health. A special emphasis is given to the role of selenium as an essential part of the integrated antioxidant system. The concept of using organic Se in ruminant nutrition is described in detail with emphasis on selenomethionine as a storage form of Se in the body. Also, specific Se deficiency-related disorders in ruminants are described and the importance of Se in growth, development, immunity and reproduction is demonstrated. Molecular mechanisms of protective effects of Se under stressful conditions of commercial milk and meat production are characterized. This book will be of practical importance to dairy and beef producers, to nutritionists and vets as well as for animal scientists, students of agricultural colleges and universities. It will also be of interest for researchers in areas related to environmental sciences, food sciences, physiology, etc.

free radical biology and medicine impact factor 2023: Handbook of Proteases in Cancer

Sajal Chakraborti, 2024-12-13 This handbook provides comprehensive coverage of the role of proteases and the associated biochemical pathways in cancer development and metastasis. Proteases make up about 2% of the human genome and play a critical role in the tumor microenvironment. Handbook of Proteases in Cancer: Cellular and Molecular Aspects introduces the major classes of proteases and the signal transduction mechanisms associated with cancer initiation and progression. It discusses the role of inflammation and immune responses in proteases-induced cancer. The book covers cancer-induced gene expression and apoptotic and necrotic pathways in cancer. This is useful for researchers and professionals in cancer research, biochemistry, and physiology. Key Features • Provides insights on the roles of proteases and anti-proteases in the tumor microenvironment. • Covers various cancer-induced apoptotic and necrotic pathways. • Discusses the mechanisms by which proteases induce an increase in inflammation, immune response, and gene expression. • Covers the function of protease-activated receptors in cancer. • Reviews the different gene expression pathways and the ways they become erratic during protease-induced cancer.

free radical biology and medicine impact factor 2023: Role of Antioxidants in Abiotic Stress Management Zaid Ulhassan, Yasir Hamid, Weijun Zhou, 2025-08-01 Role of Antioxidants in Abiotic Stress Management covers the antioxidant defense system in plants, providing key insights on how to generate tolerant varieties that can adapt to harsh environmental conditions without adverse impacts on crop productivity. The book covers a broad range of antioxidant responses, describing how global climate changes and the overexploitation of natural or anthropogenic resources creates abiotic stressors. The potential impacts of factors such as heavy metals/metalloids, drought/water deficit, salinity, extreme temperatures, anoxia, and high light intensity are covered, along with discussions on how to improve crop growth and development at different stages. Written by a team of international experts, this book provides an important reference on morphological, physiological, biochemical, metabolic, anatomical and molecular responses of plants under stress factors. - Provides important insights for improved breeding success - Highlights management strategies for enzymatic and non-enzymatic antioxidant-mediated stress tolerance in plants - Includes illustrations to clarify and demonstrate key aspects

free radical biology and medicine impact factor 2023: Stimuli-Responsive Nanocarriers for Targeted Drug Delivery Muhammad Raza Shah, Tooba Jabri, Maria Khalid, 2024-09-30

Stimuli-Responsive Nanocarriers for Targeted Drug Delivery presents a comprehensive overview of the most significant physical and chemical stimuli-responsive drug delivery systems. This book reviews targeted and controlled drug delivery systems and how nanocarriers can be used to improve the pharmacokinetics of drugs in biological systems, such as increasing utilization rate and reducing toxicity and side effects. After a key introduction to the topic, a range of nanocarrier types is

assessed before exploring the clinical translation challenges and considerations involved. This book is a useful resource for researchers and postgraduate students in the fields of materials science, nanotechnology, pharmaceutical science, and medicinal chemistry. - Offers an in-depth look at the basic and fundamental aspects of stimuli-responsive materials, mechanisms, structure, synthesis and properties - Provides information about well-defined categorization for stimuli-responsive drug delivery system based on different triggering mechanisms to its reader - Reviews basic concepts and the latest research involving advances in stimuli-responsive drug delivery systems in controlled-release drugs - Discusses novel approaches and challenges for scaling-up and commercialization of stimuli-responsive polymers

free radical biology and medicine impact factor 2023: Nutraceuticals and Bone Health
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