Metabolic Brain Disease (2023) 38:45–59
https://doi.org/10.1007/s11011-022-01095-1

REVIEW ARTICLE

Targeting inflammation: a potential approach for the treatment of depression

Shvetank Bhatt[1] · Thangaraj Devadoss[2] · Niraj Kumar Jha[3] · Moushumi Baidya[4,5] · Gaurav Gupta[6,7,8] · Dinesh Kumar Chellappan[9] · Sachin Kumar Singh[10,11] · Kamal Dua[11,12]

Received: 18 May 2022 / Accepted: 29 September 2022 / Published online: 14 October 2022

Abstract

Major depressive disorder (MDD) or Depression is one of the serious neuropsychiatric disorders affecting over 280 million people worldwide. It is 4th important cause of disability, poor quality of life, and economic burden. Women are more affected with the depression as compared to men and severe depression can lead to suicide. Most of the antidepressants predominantly work through the modulation on the availability of monoaminergic neurotransmitter (NTs) levels in the synapse. Current antidepressants have limited efficacy and tolerability. Moreover, treatment resistant depression (TRD) is one of the main causes for failure of standard marketed antidepressants. Recently, inflammation has also emerged as a crucial factor in pathological progression of depression. Proinflammatory cytokine levels are increased in depressive patients. Antidepressant treatment may attenuate depression via modulation of pathways of inflammation, transformation in structure of brain, and synaptic plasticity. Hence, targeting inflammation may be emerged as an effective approach for the treatment of depression. The present review article will focus on the preclinical and clinical studies that targets inflammation. In addition, it also concentrates on the therapeutic approaches' that targets depression via influence on the inflammatory signaling pathways.

Keywords Cytokines · Depression · Inflammation · Oxidative stress · TNF-α

✉ Shvetank Bhatt
shvetankbhatt@gmail.com

1 School of Pharmacy, Dr. Vishwanath Karad MIT World Peace University, Maharashtra 411038 Pune, India

2 Department of Pharmaceutical Chemistry, Shri Vile Parle Kelavani Mandal's Institute of Pharmacy, Mumbai Agra Highway, Maharashtra 424001 Dhule, India

3 Department of Biotechnology, School of Engineering & Technology (SET), Sharda University, 201310 Greater Noida, Uttar Pradesh, India

4 Department of Pharmaceutical Technology, JIS University, 700109 Kolkata, West Bengal, India

5 Department of Pharmaceutical Technology, Bharat Pharmaceutical Technology, 799130 Agartala, West Tripura, India

6 School of Pharmacy, Suresh Gyan Vihar University, Mahal Road, Jagatpura, Jaipur, India

7 Department of Pharmacology, Saveetha Institute of Medical and Technical Sciences, Saveetha Dental College and Hospitals, Saveetha University, Chennai, India

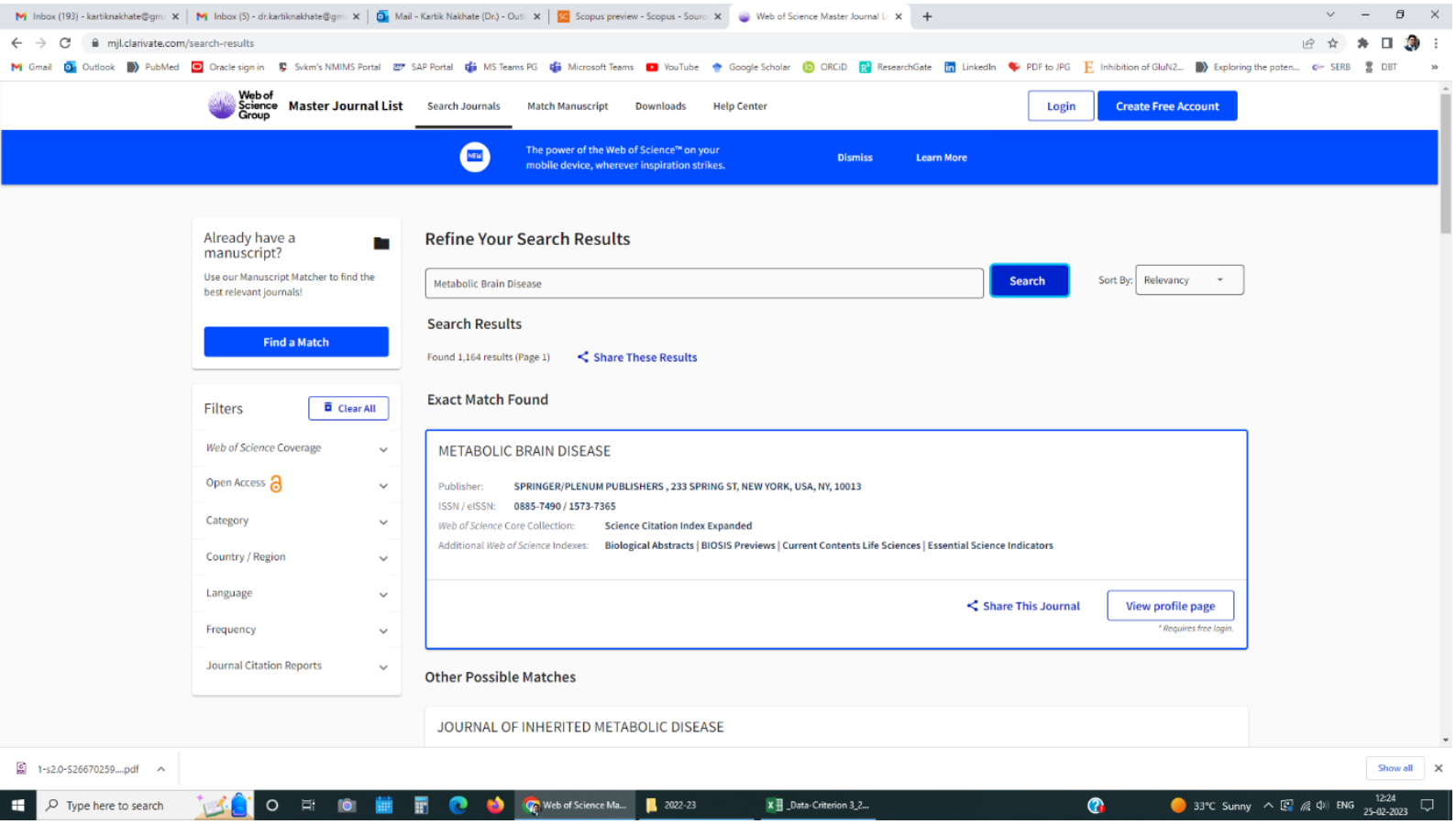
8 Uttaranchal Institute of Pharmaceutical Sciences, Uttaranchal University, 248007 Dehradun, India

9 Department of Life Sciences, School of Pharmacy, International Medical University, Bukit Jalil, 57000 Kuala Lumpur, Malaysia

10 School of Pharmaceutical Sciences, Lovely Professional University, Jalandhar-Delhi G.T Road, Phagwara, Punjab, India

11 Faculty of Health, Australian Research Centre in Complementary & Integrative Medicine, University of Technology Sydney, 2007 Ultimo, NSW, Australia

12 Discipline of Pharmacy, Graduate School of Health, University of Technology Sydney, 2007 Ultimo, NSW, Australia


Web of Science Group
Master Journal List
Search Journals
Match Manuscript
Downloads
Help Center
Login
Create Free Account
The power of the Web of Science™ on your mobile device, wherever inspiration strikes.
Dismiss
Learn More
Already have a manuscript?
Use our Manuscript Matcher to find the best relevant journals!
Find a Match
Filters
Clear All
Web of Science Coverage
Open Access
Category
Country / Region
Language
Frequency
Journal Citation Reports
Refine Your Search Results
Metabolic Brain Disease
Search
Sort By: Relevancy
Search Results
Found 1,164 results (Page 1)
Share These Results
Exact Match Found
METABOLIC BRAIN DISEASE
Publisher: SPRINGER/PLENUM PUBLISHERS , 233 SPRING ST, NEW YORK, USA, NY, 10013
ISSN / eISSN: 0885-7490 / 1573-7365
Web of Science Core Collection: Science Citation Index Expanded
Additional Web of Science Indexes: Biological Abstracts | BIOSIS Previews | Current Contents Life Sciences | Essential Science Indicators
Share This Journal
View profile page
* Requires free login.
Other Possible Matches
JOURNAL OF INHERITED METABOLIC DISEASE