J Neurol Sci. 2014 Dec 15;347(1-2):34-8. doi: 10.1016/j.jns.2014.10.024. Epub 2014 Oct 23.

A novel treatment target for Parkinson's disease.

Wakade C[1], Chong R[2].

Author information

1 Department of Physical Therapy, Georgia Regents University, Augusta, GA, USA. Electronic address: cwakade@gru.edu.
2 Department of Physical Therapy, Georgia Regents University, Augusta, GA, USA. Electronic address: rchong@gru.edu.

Abstract

We hypothesize that GPR109A message and expression are up-regulated in individuals with Parkinson's disease (PD). GPR109A is a high-affinity niacin receptor. Niacin is a precursor for NAD-NADH which is needed for dopamine production. Thus, niacin supplementation may serve three purposes: reduce inflammation through GPR109A-related mechanisms, increase dopamine synthesis in the striatum through NADPH supply and increase NAD/NADH ratio to boost mitochondrial functions. GPR109A and its agonists are known to exert anti-inflammatory actions in the skin, gut and retina. However these roles are neither anticipated nor established in the CNS. For the first time here we propose the roles of GPR109A and its agonists including niacin in CNS pathology. Moreover we predict that the neuroprotective roles of either niacin or butyrates in CNS occur via GPR109A.

KEYWORDS: GPR109A; HCAR2; HM74a; Inflammation; Niacin; Niacinamide

PMID: 25455298 DOI: 10.1016/j.jns.2014.10.024

[Indexed for MEDLINE]

PubChem Compound (MeSH Keyword)

Cited in PMC

Recent Activity

Turn Off Clear

A novel treatment target for Parkinson's disease. PubMed

Niacin modulates macrophage polarizat PubMed

Low-dose niacin supplementation mod PubMed

See more...

You are here: NCBI > Literature > PubMed

Support Center

GETTING STARTED
NCBI Education
NCBI Help Manual
NCBI Handbook
Training & Tutorials
Submit Data

RESOURCES
Chemicals & Bioassays
Data & Software
DNA & RNA
Domains & Structures
Genes & Expression
Genetics & Medicine
Genomes & Maps
Homology
Literature
Proteins
Sequence Analysis
Taxonomy
Variation

POPULAR
PubMed
Bookshelf
PubMed Central
BLAST
Nucleotide
Genome
SNP
Gene
Protein
PubChem

FEATURED
Genetic Testing Registry
GenBank
Reference Sequences
Gene Expression Omnibus
Genome Data Viewer
Human Genome
Mouse Genome
Influenza Virus
Primer-BLAST
Sequence Read Archive

NCBI INFORMATION
About NCBI
Research at NCBI
NCBI News & Blog
NCBI FTP Site
NCBI on Facebook
NCBI on Twitter
NCBI on YouTube
Privacy Policy

National Center for Biotechnology Information, U.S. National Library of Medicine
8600 Rockville Pike, Bethesda MD, 20894 USA

Policies and Guidelines | **Contact**