

Format:

Abstract ▾

Send to ▾

Full text links



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 C¹, Chong R².

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](https://doi.org/10.1016/j.jns.2014.10.024)


[Indexed for MEDLINE]



Publication type, MeSH terms, Substances 

LinkOut - more resources 

Save items

 Add to Favorites ▾

Similar articles

Upregulation of GPR109A in Parkinson's di [PLoS One. 2014]

Review Future of GPR109A ag [Diabetes Obes Metab. 2011]

Pyrido pyrimidinones as se [Bioorg Med Chem Lett. 2010]

Analogues of acifran: agonists of the high [J Med Chem. 2007]

Review Nicotinic acid (niacin) receptor ag [Am J Cardiol. 2007]

[See reviews...](#)

[See all...](#)

Cited by 5 PubMed Central articles

Review Sphingolipids and lipid rafts: ↑ [Chem Phys Lipids. 2018]

Review Prevention of progression in [Biometals. 2018]

Review Emerging preclinical pharmacologi [Oncotarget. 2016]

[See all...](#)

Related information

Articles frequently viewed together

MedGen