# Peptide based therapeutics and their use for the treatment of neurodegenerative and other diseases

Baig M.H.

Ahmad K.

Saeed M.

Alharbi A.M.

Barreto G.E.

Ashraf G.M.

Choi I.

Bioactive peptides are actively involved in different biological functions and importantly contribute to human health, and the use of peptides as therapeutics has a long successful history in disease management. A number of peptides have wide-ranging therapeutic effects, such as antioxidant, antimicrobial, and antithrombotic effects. Neurodegenerative diseases are typically caused by abnormal aggregations of proteins or peptides, and the depositions of these aggregates in or on neurons, disrupt signaling and eventually kill neurons. During recent years, research on short peptides has advanced tremendously. This review offers a brief introduction to peptide based therapeutics and their application in disease management and provides an overview of peptide vaccines, and toxicity related issues. In addition, the importance of peptides in the management of different neurodegenerative diseases and their therapeutic applications is discussed. The present review provides an understanding of peptides and their applications for the management of different diseases, but with focus on neurodegenerative diseases. The role of peptides as anti-cancer, antimicrobial and antidiabetic agents has also been discussed. © 2018 Elsevier Masson SAS

Anti-Cancer

Enzymes

Neurodegenerative disorders

Peptide based vaccine

priority journal

Review

toxicity

animal

degenerative disease

drug effect

membrane potential

metabolism

pathology

physiology

treatment outcome

Animals

Anti-Bacterial Agents

Anti-Infective Agents

Antioxidants

Humans

Hypoglycemic Agents

Membrane Potentials

Neurodegenerative Diseases

Peptides

Treatment Outcome