

Targeting autophagy in neurodegenerative diseases

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© 2014 Elsevier B.V. All rights reserved. The most prevalent neurodegenerative disorders involve protein misfolding and the aggregation of specific proteins. Autophagy is becoming an attractive target to treat neurodegenerative disorders through the selective degradation of abnormally folded proteins by the lysosomal pathway. However, accumulating evidence indicates that autophagy impairment at different regulatory steps may contribute to the neurodegenerative process. Thus, a complex scenario is emerging where autophagy may play a dual role in neurodegenerative diseases by causing the downstream effect of promoting the degradation of misfolded proteins and an upstream effect where its deregulation perturbs global proteostasis, contributing to disease progression. Challenges in the future development of therapeutic strategies to target the autophagy pathway are discussed.