

ER stress signaling and neurodegeneration: At the intersection between Alzheimer's disease and Prion-related disorders

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© 2014 Elsevier B.V. Alzheimer's and Prion diseases are two neurodegenerative conditions sharing different pathophysiological characteristics. Disease symptoms are associated with the abnormal accumulation of protein aggregates, which are generated by the misfolding and oligomerization of specific proteins. Recent functional studies uncovered a key role of endoplasmic reticulum (ER) stress and the unfolded protein response (UPR) in the occurrence of synaptic dysfunction and neurodegeneration in Prion-related disorders and Alzheimer's disease. Here we review common pathological features of both diseases, emphasizing the link between amyloid formation, its pathogenesis and alterations in ER proteostasis. The potential benefits of targeting the UPR as a therapeutic strategy is also discussed.