Stable tubule only polypeptides (STOP) proteins co-aggregate with spheroid neurofilaments in amyotrophic lateral sclerosis

Titre	Stable tubule only polypeptides (STOP) proteins co-aggregate with spheroid neurofilaments in amyotrophic lateral sclerosis
Type de publication	Article de revue
Auteur	Letournel, Franck [1], Bocquet, A. [2], Dubas, Frédéric [3], Barthelaix, Annick [4], Eyer, Joël [5]
Editeur	Oxford University Press (OUP)
Type	Article scientifique dans une revue à comité de lecture
Année	2003
Langue	Anglais
Date	Décembre 2003
Numéro	12
Pagination	1211-9
Volume	62
Titre de la revue	Journal of neuropathology and experimental neurology
ISSN	0022-3069
Mots-clés	Adult [6], Aged [7], Aged, 80 and over [8], amyotrophic lateral sclerosis [9], Animals [10], Brain [11], Cell Aggregation [12], Female [13], Humans [14], Male [15], Mice [16], Microtubule-Associated Proteins [17], microtubules [18], Middle Aged [19], Neurofilament Proteins [20], Spheroids, Cellular [21]
Résumé en anglais	A major cytopathological hallmark of amyotrophic lateral sclerosis (ALS) is the presence of axonal spheroids containing abnormally accumulated neurofilaments. The mechanism of their formation, their contribution to the disease, and the possibility of other co-aggregated components are still enigmatic. Here we analyze the composition of such lesions with special reference to stable tubule only polypeptide (STOP), a protein responsible for microtubule cold stabilization. In normal human brain and spinal cord, the distribution of STOP proteins is uniform between the cytoplasm and neurites of neurons. However, all the neurofilament-rich spheroids present in the tissues of affected patients are intensely labeled with 3 different anti-STOP antibodies. Moreover, when neurofilaments and microtubules are isolated from spinal cord and brain, STOP proteins are systematically co-purified with neurofilaments. By SDS-PAGE analysis, no alteration of the migration profile of STOP proteins is observed in pathological samples. Other microtubular proteins, like tubulin or kinesin, are inconstantly present in spheroids, suggesting that a microtubule destabilizing process may be involved in the pathogenesis of ALS. These results indicate that the selective co-aggregation of neurofilament and STOP proteins represent a new cytopathological marker for spheroids.
URL de la notice	http://okina.univ-angers.fr/publications/ua15660 [22]

DOI	10.1093/jnen/62.12.1211 [23]
Lien vers le document	https://academic.oup.com/jnen/article/62/12/1211/2609953/Stable-Tubule-O… [24]
Titre abrégé	J. Neuropathol. Exp. Neurol.
Identifiant (ID) PubMed	14692697 [25]

Liens
[1] http://okina.univ-angers.fr/franck.letournel/publications
[2] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=10006
[3] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=655
[4] http://okina.univ-angers.fr/a.barthelaix/publications
[5] http://okina.univ-angers.fr/joel.eyer/publications
[6] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=1002
[7] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=1072
[8] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=1531
[9] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22366
[10] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=964
[11] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=1866
[12] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22430
[13] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=1075
[14] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=991
[15] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=968
[16] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=1102
[17] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22431
[18] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22367
[19] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=5941
[20] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=10762
[21] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=11052
[22] http://okina.univ-angers.fr/publications/ua15660
[23] http://dx.doi.org/10.1093/jnen/62.12.1211
[24] https://academic.oup.com/jnen/article/62/12/1211/2609953/Stable-Tubule-Only-Polypeptides-STOP-Proteins-Co
[25] http://www.ncbi.nlm.nih.gov/pubmed/14692697?dopt=Abstract