



## Neurofilaments form flexible bundles during neuritogenesis in culture and in mature axons in situ

Submitted by Laurent Lemaire on Wed, 07/17/2019 - 09:11

Titre	Neurofilaments form flexible bundles during neuritogenesis in culture and in mature axons in situ
Type de publication	Article de revue
Auteur	Lee, Sangmook [1], Eyer, Joël [2], Letournel, Franck [3], Boumil, Edward [4], Hall, Garth [5], Shea, Thomas B [6]
Editeur	John Wiley & Sons
Type	Article scientifique dans une revue à comité de lecture
Année	2019
Langue	Anglais
Date	15 Juillet 2019
Numéro	10
Pagination	1306-1318
Volume	97
Titre de la revue	Journal of neuroscience research
ISSN	1097-4547
Mots-clés	axonal cytoskeleton [7], neurofilament [8], pathfinding [9], Remodeling [10], RRID:AB_2314901 [11], RRID:AB_2315331 [12], RRID:AB_521686 [13]
Résumé en anglais	Neurofilaments (NFs) undergo cation-dependent phospho-mediated associations with each other and other cytoskeletal elements that support axonal outgrowth. Progressive NF-NF associations generate a resident, bundled population that undergoes exchange with transporting NFs. We examined the properties of bundled NFs. Bundles did not always display a fully linear profile but curved and twisted at various points along the neurite length. Bundles retracted faster than neurites and retracted bundles did not expand following extraction with Triton, indicating that they coiled passively rather than due to pressure from the cell. Bundles consisted of helically wound NFs, which may provide flexibility necessary for turning of growing axons during pathfinding. Interactions between NFs and other cytoskeletal elements may be disrupted en masse during neurite retraction or regionally during remodeling. It is suggested that bundles within long axons that cannot be fully retracted into the soma could provide maintain proximal support yet still allow more distal flexibility for remodeling and changing direction during pathfinding.
URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua19969">http://okina.univ-angers.fr/publications/ua19969</a> [14]
DOI	10.1002/jnr.24482 [15]
Lien vers le document	<a href="https://onlinelibrary.wiley.com/doi/abs/10.1002/jnr.24482">https://onlinelibrary.wiley.com/doi/abs/10.1002/jnr.24482</a> [16]
Titre abrégé	J. Neurosci. Res.
Identifiant (ID) PubMed	31304612 [17]

---

## Liens

- [1] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=38229>
- [2] <http://okina.univ-angers.fr/joel.eyer/publications>
- [3] <http://okina.univ-angers.fr/franck.letournel/publications>
- [4] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=38230>
- [5] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=38231>
- [6] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=38232>
- [7] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=14618>
- [8] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=14622>
- [9] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=28903>
- [10] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=7143>
- [11] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=28904>
- [12] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=28905>
- [13] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=28906>
- [14] <http://okina.univ-angers.fr/publications/ua19969>
- [15] <http://dx.doi.org/10.1002/jnr.24482>
- [16] <https://onlinelibrary.wiley.com/doi/abs/10.1002/jnr.24482>
- [17] <http://www.ncbi.nlm.nih.gov/pubmed/31304612?dopt=Abstract>

Publié sur *Okina* (<http://okina.univ-angers.fr>)