Myelin Maintenance and Peripheral Neuropathies

Study of the mechanisms that maintain the myelin sheath of the peripheral nerve, under physiological and pathological conditions. Pathophysiology and therapeutics of the various types of peripheral neuropathies (demyelinating, axonal and small fibre neuropathy).

keywords:
- Peripheral Neuropathies
- Pathophysiology
- Genetics
- Microscopy
- Cellular and Animal Models
- Therapeutics

2012
The first area of research that our team focuses on is understanding the mechanisms that maintain the peripheral myelin sheath, taking into account its physiological and pathological aspects. The team works on discerning the maintenance effectors – by taking three aspects that play a role here into account: (i) Schwann cells, peripheral nerve myelinating cells, (ii) relationships between Schwann cells and axons, and (iii) relationships between Schwann cells and the extracellular matrix – and also on characterizing process dysfunction under pathological conditions (genetically-determined neuropathies and acquired neuropathies, in particular inflammatory) on ill individuals and in animal models.

We also work on a second research area that focuses on therapeutics in peripheral neuropathies. This includes developing peripheral neuropathies models (in particular cellular), that are used for testing different therapeutic approaches, such as using hydrogels for the sustained release of bioactive molecules, and screening drug candidates. A second theme deals with small fibre peripheral neuropathies. Various approaches, on animal models and on humans, are currently developed on these frequently painful types of neuropathies, which are highly prevalent among the general population.
KEY FIGURES
(at 1st January 2012)
Teacher-researchers: 11
Other researchers: 3
HDR (accredited to direct research): 7
Doctoral students (2011-2012): 6
Engineers, technicians: 2
Administrative agents: 1
Other projects: French Muscular
Dystrophy Association

HONOURS
Corresponding member of the French National Academy of Medicine (Prof. Jean-Michel Vallat)

PARTNERSHIPS
Active National University Partnerships:
UMR INSERM1024-CNRS8197, Biology Institute of the Ecole Normale Supérieure, Paris: development of the peripheral nervous system.
UMR Inserm694, Angers: mitochondrial dysfunction cell models
Max Mousseron Biomolecules Institute, CNRS, Montpellier: new methods for delivering bioactive molecules

Current International University Partnerships:
Mustafa University Hospital, Ben Aknoun Specialized Hospital, Algiers, Algeria; Institute for Neuromuscular Research, University of Sydney, Australia.

National Industrial Partnerships:
MedinCell SA, Montpellier, France

Research Federation:
GEIST (FR 3503)
SCIENTIFIC PRODUCTION
OF RESEARCH TEAM
(2008-2011)
Website publication: hal.archives-ouvertes.fr/EA6309
Articles: 75 international and 97 in peer-reviewed journals
Conference presentations: 38

Major publications and/or patents over the last 5 years


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