

Dr. Nabil Djouder, a French scientist, obtained his PhD in Molecular Pharmacology and Pharmacochimistry from the University of Strasbourg (France) and the University of Freiburg (Germany), where he investigated mast cell activation mechanisms under the guidance of Dr. Klaus Aktories.

In 2001, he pursued postdoctoral research at the Novartis Friedrich Miescher Institute in Basel, Switzerland, with Dr. Wilhem Krek. His work focused on elucidating the mechanisms of growth control in cancer, particularly the regulation of the mTORC1 pathway by growth factors and nutrients, as well as energy homeostasis and their link to metabolic disorders.

In 2003, Djouder continued his collaboration with W. Krek at the Institute of Cell Biology at ETH Zurich, contributing to the creation of the Competence Centre for Systems Physiology and Metabolic Diseases.

In early 2010, he joined the Cancer Cell Biology Programme as a Junior Group Leader, established by Dr. Erwin Wagner at the CNIO in Madrid. There, he focused on studying the role of growth factors and nutrients in cancer and associated metabolic disorders.

Djouder's pioneering work investigates the function of the URI prefoldin-like complex, a heterohexameric chaperone complex with implications in cellular homeostasis and disease development. By creating genetically engineered mouse models for URI gain and loss-of-function, he has highlighted the importance of URI as an oncogene and how its modulation by environmental stressors can link environmental factors to cancer development. His research indicates that URI may be crucial for early embryonic development and acts as a component of a quality control system that mitigates proteotoxicity and suppresses disease development.

Furthermore, utilizing a wide array of genetically engineered mouse models and advanced technologies, Dr. Djouder has unraveled mechanisms underlying diseases of the digestive system triggered by unhealthy diets, nutrient imbalances, and sedentary lifestyles, which often lead to severe inflammatory conditions. Specifically, he has elucidated how nutrients possess inflammatory properties and their intricate links to various metabolic disorders.

His research also established that metabolic dysfunctions contribute to genomic instability, thereby triggering inflammatory responses, and suggests that cancer hallmarks are intrinsic to the tumorigenesis timeline.

His contributions have been groundbreaking as he was the first to highlight NAD⁺ depletion as a critical factor in DNA damage-induced inflammation and cancer. He has pioneered the use of nicotinamide riboside as an NAD⁺ supplement for both the prevention and treatment of cancer. Moreover, his research has linked inflammation, particularly involving IL-17A, to obesity and autoimmune disorders, notably connecting these conditions to the development of liver disease-induced hepatocellular carcinoma. These findings have garnered significant interest from pharmaceutical companies such as Lilly and Novartis, leading to exploration in clinical trials aimed at investigating IL-17A blockers as potential therapies for obesity-related disorders.

Dr. Djouder has an impressive impactful publication record in highly recognized international journals. He has also received prestigious awards, including the Ramon y Cajal Award, and secured national and international funding. Despite CNIO's policy against granting tenure to Junior Group Leaders, his exceptional achievements led to his promotion to Senior Group Leader in January 2018.

Overall, his research contributions in understanding the function of URI prefoldin complex, and in the areas of nutrients, inflammation, and cancer have been widely recognized and rewarded, establishing him as an expert in this field.