

## A Brief Biography

### Jacques Nunez

(1927-2018)

Jacques Nunez, born Giacomo Ugo Nunez, in 1927 as an Italian citizen in Tunis, Tunisia, played an important role in the studies of thyroid hormone and brain development and function. Trained as a chemist, he spent most of his career as a research scientist, leading different laboratories in France at the CNRS and INSERM. While Dr. Nunez was still in Tunis working as a food chemist, he developed the now well-known method of lipid-based paper chromatography to determine the chlorophyll and carotene composition in leaves. The discovery launched his research career, and he was recruited to France where he continued a successful research career that lasted until his retirement in 1995. Among his notable accomplishments, he was the first to discover and synthesize the reverse-T3 thyroid hormone. He worked to elucidate the metabolic pathways of the formation of thyroid hormones and their mechanism of action particularly in the role of neurogenesis and in glucose metabolism. He spent much of his career studying the MAP-2 (microtubule associated protein) and tau proteins that control dendritic and axonal growth, respectively, in the neuron. He discovered there were two forms of tau proteins, an unstable juvenile and a stable adult form, appearing at different stages of development controlled by thyroid hormones which may explain the plasticity of neuronal connections in infancy. This work led to the universal screening of newborns for thyroid hormone deficiency to prevent mental retardation and cretinism. His best known discovery, however, became one of the most important ones for the study of Alzheimer's disease, the identification of the tau proteins that make up the tangles of the human brains suffering from the disease, opening potential avenues of research for treatment.

Dr. Nunez enjoyed stimulating collaborations and long-lasting friendships with many leading researchers around the world including those at Columbia University (Michael Shelanski) and NIH in Bethesda (Louis Sokoloff, Martin Rodbell, Ed Rall, Jacob Robbins, Douglas Forrest) and Belgium (Jacques Dumont, Jean-Pierre Brion). Besides hundreds of scientific publications, he authored the section in the Encyclopedia of Neuroscience on thyroid hormone over several editions. He received a number of awards for his work including the European Thyroid Association ETA Merck-Serono Prize in 1993.

He retired from the French INSERM (the French equivalent to the NIH of the U.S.) at 68 years old and moved to Chevy Chase, Maryland to be near his three daughters, all physicians in the U.S. and to work as a guest researcher at NIH for the next ten years. After retirement from science, he took on a new career as historian with an exploration of his family's roots and wrote five books on the topic of the Spanish/Portuguese/Italian Jewish family journey through some of the most important developments in modern history. The family's migrations were intertwined with the Spanish and Portuguese Inquisitions, the defeat of the Spanish Armada, the creation of one of the earliest international trade system around the ports of the Mediterranean and Europe,

the funding of the Renaissance with the Medici family, the founding of Livorno, Napoleon's blockade of Livorno and then through to his own experiences with the Holocaust and the Nazi occupation of Tunisia in World War II. Fluent in many languages, Jacques Nunez wrote in Italian (his native language), French and English, with his last book on the phrases of the Bajito language of the Portuguese Livornese Jews, for which he was one of the last to know any bits of that dialect.

Jacques Nunez enjoyed cooking and art, sometimes creating his own artwork. His mother had been trained at the Cordon Bleu in France, and he paid great attention to cooking delicious and sometimes extravagant meals for friends and family. Intelligent and outgoing, Jacques was never shy and almost always the center of attention wherever he went. He spent much of his time with his family, his wife, Paulette (Perla) of nearly 70 years, three daughters and a son, his son-in-law and his five grandchildren, recounting the many stories of his family and of his career.