



CHARCOT FUND 2011

Prof. Dr. An Goris

K.U.L.
Laboratory for Neuroimmunology
Section of Experimental Neurology
Herestraat 49 Bus 1022
B - 3000 Leuven

38.000,00 €

Humoral Immunity in Multiple Sclerosis from a Genetics Perspective

The formation of antibodies against proteins from an individual's own body is an important element in diagnosing multiple sclerosis. The precise role of these antibodies in the course of the disease is not yet clear. There are, however, differences between patients in the quantity of antibodies that they produce. In this research project we are looking at whether differences in the hereditary material between individuals help explain these gradations in antibody production (humoral immunity), and whether this partly explains the differing susceptibility to MS and the differing clinical picture from one person to another.

Dr. Ann MASSIE, Dr. Guy LAUREYS, Dr. Ralph CLINCKERS,

V.U.B.
FASC-Unit
Laarbeeklaan 103
B - 1090 Brussel

56.800,00 € / 2 years

Promotor :
Prof. Dr. Jacques De Keyser/ UZ Brussel

Characterization of the role of the cystine/glutamate anionporter or system xc⁻ and other glial glutamate transporters in multiple sclerosis : possible link with β 2-adrenergic receptor dysfunction

Multiple sclerosis (MS) is neurological condition in which progressive disability is caused as the protective sheath around neurons dies off. There are indications that an excess of the neurotransmitter glutamate could play a role here. It is not currently known why people with MS have a higher glutamate level in their brain. In this study we are going to examine whether poor functioning of the glutamate transporters, whose task is to control glutamate concentrations in our brain, is responsible for this.

Prof. Dr. Geert van Loo, Prof. Dr. Rudi Beyaert, Prof. Dr. Bart Lambrecht

VIB/UGent
Departement Moleculair Biomedisch Onderzoek
Technologiepark 927
B – 9052 Zwijnaarde

38.800,00 €

Establishing the role of the NF- κ B-regulatory protein A20 in experimental autoimmune encephalomyelitis using a conditional gene knockout approach

Uncontrolled inflammation forms the basis of various diseases, including cancer, asthma, rheumatoid arthritis, Crohn's disease and neurodegenerative disorders such as multiple sclerosis. Detailed knowledge of the molecular mechanism of the process of inflammation and of the specific role of the transcription factor NF- κ B in these diseases is therefore extremely important and opens up prospects for the development of new drugs.

Our project concerns research on inflammation mechanisms involving NF- κ B in the pathology of multiple sclerosis. For this, we use mice genetically defective in major NF- κ B-regulatory genes, and use them in mouse models for multiple sclerosis. With this project we hope to gain a better understanding of the specific functions of some of these genes in multiple sclerosis.

Prof. Dr. Zwi Berneman

Universiteit Antwerpen
Vaccin & Infectieziekteninstituut
Universitair Ziekenhuis Antwerpen
Dienst Hematologie
Wilrijkstraat 10
B – 2650 Edegem

Prof. Dr. Viggo Van Tendeloo, Dr. Nathalie Cools

Universiteit Antwerpen
Vaccin & Infectieziekteninstituut
Laboratorium voor Experimentele Hematologie
Wilrijkstraat 10
B – 2650 Edegem

39.000,00 €

The immune-modulating role of vitamin D3-treated dendritic cells in multiple sclerosis

Dendritic cells are a special group of white blood cells that function as the on and off switch of the immune system. Over the past few years the Laboratory for Experimental Haematology headed by Professor Berneman has recorded significant progress in research into inducing anti-tumour and anti-viral immune reactions with the help of dendritic cells (positive vaccination). Vaccination with dendritic cells that can suppress the immune system (i.e. tolerogenic dendritic cells) could also become an important approach in the treatment of autoimmune diseases, allergies and rejection symptoms in transplant surgery (negative vaccination) in the near future. Thanks to the financial support provided by the Charcot research fund, we are to conduct research into whether treating dendritic cells with vitamin D3 results in a change in the function of the cell so that the autoimmune reaction directed against brain antigens in multiple sclerosis is suppressed. This should enable us to assess the feasibility and applicability of a cellular vaccine for the treatment of MS on a pre-clinical basis.