Research cooperation in the field of neuroimmunology

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Our experimental model

Experimental autoimmune encephalomyelitis (EAE) is an animal model of the human chronic demyelinating inflammatory central nervous system disease, multiple sclerosis (MS).

The relevance of our results obtained on EAE are for better understanding of the pathogenesis and therapy of MS.
EAE induction in rats

Active EAE is induced by immunization with spinal cord homogenate (SCH) mixed with Complete Freunds Adjuvant (CFA).

Albino Oxford (resistant)    Dark Agouti (susceptible)
Clinical course of the active EAE (relapse remitting course)

- 4 – moribund
- 3 – hind limb paralysis
- 2 – hind limbs paresis
- 1 – tail atony

inductive
<table>
<thead>
<tr>
<th>Cells</th>
<th>Methodology</th>
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</thead>
<tbody>
<tr>
<td>• Astrocytes</td>
<td>• Cell culture</td>
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<tr>
<td>• Dendritic cells</td>
<td>• Viability tests</td>
</tr>
<tr>
<td>• Macrophages</td>
<td>• Flow cytometry</td>
</tr>
<tr>
<td>• Immune cells from CNS</td>
<td>• ELISA</td>
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<tr>
<td>• Immune cells from draining lymph nodes</td>
<td>• WB</td>
</tr>
<tr>
<td>• Intestinal immune cells (Peyers patches)</td>
<td>• qPCR</td>
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<td>• Regulatory T cells</td>
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<td>• Microglial cell line BV2</td>
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What we do

• Pharamacological modulation of EAE in vivo using various chemical compounds, plant extracts and examining the in vitro effects on immune cells


• Determining the potential molecular and/or cellular targets for a therapeutic intervention


• Interaction of the CNS and the gut (the effect of gut microbiota perturbation on susceptibility to induction of EAE)


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