

## FOR DIFFERENTIAL DIAGNOSIS OF MULTIPLE SCLEROSIS

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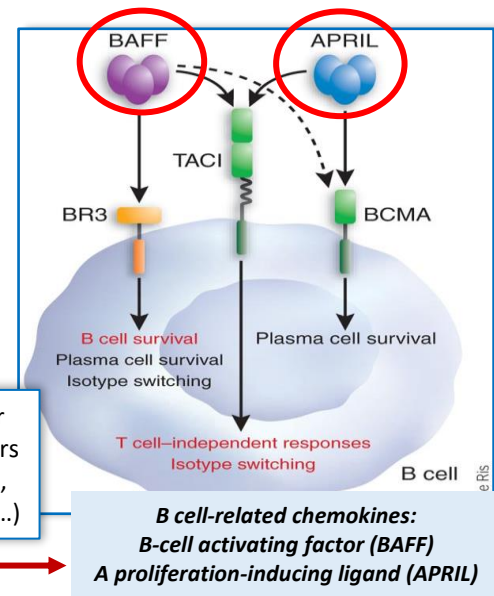
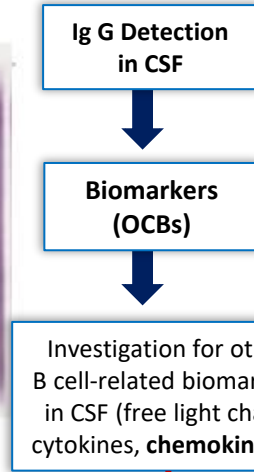
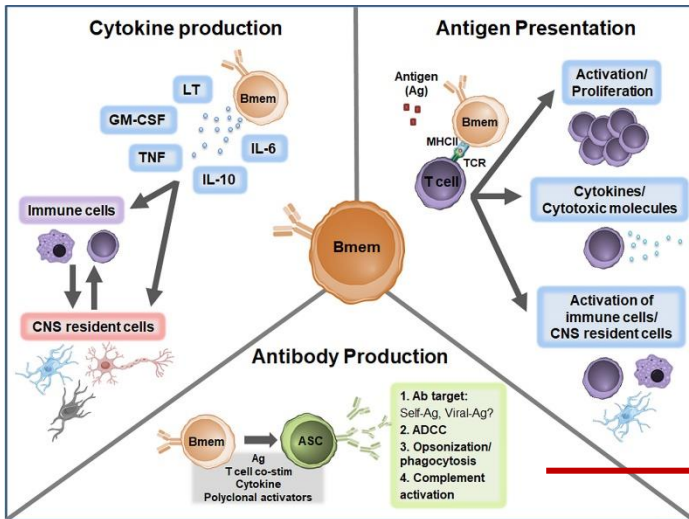
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### Introduction

Multiple sclerosis is the most frequent inflammatory demyelinating disease of the central nervous system (CNS)

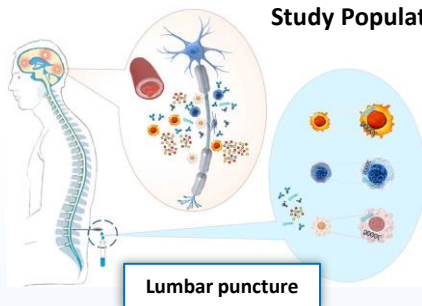
**B cell is known as key player in MS pathogenesis**



**AIM:** To analyze BAFF and APRIL levels in the Cerebrospinal fluid (CSF) of patients with diagnosed MS compared with other neuro-inflammatory diseases of the CNS (= MS differential diagnoses) and to evaluate their possible correlation with patients' features.

### Material and Methods

Study Population (n=80) → 50 patients with MS and 30 non-MS patients (NMO(n=19), ONID (n=11))

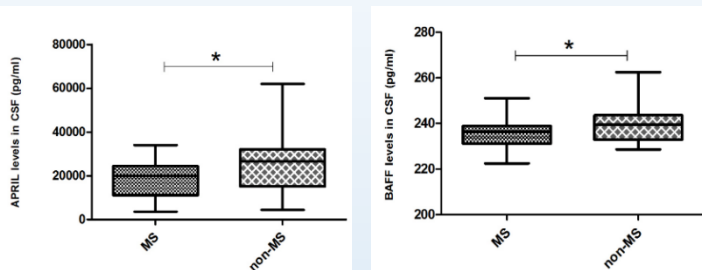


**B-cell related parameters in CSF (previously studied):** Oligoclonal Bands detection in CSF, Total IgG Index, Reiber Diagram, Kappa Free Light Chain Index, CXCL13

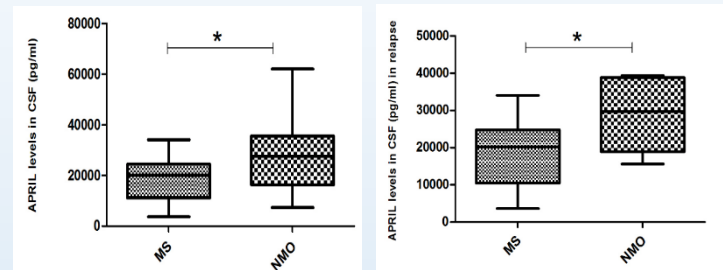
**Other promising B-cell related parameters: Chemokines (BAFF and APRIL) in CSF (ELISA)**

### Results

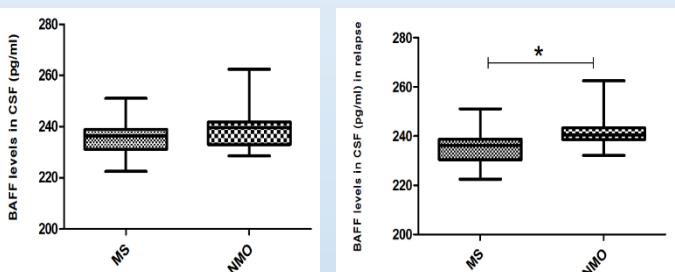
Comparative Box plot showing the distribution of APRIL (A) and BAFF (B) CSF levels in MS and non-MS patients



Comparative Box plot showing the distribution of APRIL CSF levels in MS and NMO patients in study population (A) and in replase (B)



Comparative Box plot showing the distribution of BAFF CSF levels in MS and NMO patients in study population (A) and in replase (B)



### Conclusion

- ✓ Our preliminary findings suggest a potential role of APRIL and BAFF detection in CSF during inflammatory conditions of the CNS, which could be a promising, reliable, simple, and cost-efficient parameter to differentiate NMO and MS patients.
- ✓ These interesting results could be considered for the update of the laboratory investigation algorithm of neuro-inflammatory diseases.
- ✓ An optimized way for CSF testing combining the conventional and the new B cell-related parameters can be proposed.