SIA Preclinical Services in Drug Development

In-vivo EAE Models of Multiple Sclerosis

Multiple sclerosis (MS) is one of the most common neurological disorders, causing gradual damage to the central nervous system (CNS). In the course of MS, an autoimmune response damages the myelin sheath. This damage disrupts the ability of parts of the nervous system to communicate, resulting in a wide range of clinical and pathological phenotypes.

Experimental autoimmune encephalomyelitis (EAE) is an induced inflammatory autoimmune, demyelinating disease model in mouse or rat. EAE pathology closely resembles that of Multiple Sclerosis. EAE model recapitulates the progression and symptoms of the human neurological disease of MS.

SIA provides full services for the evaluation of test article efficacy in EAE Models of Human Multiple Sclerosis.

EAE-MOG model in mice

EAE is induced following the immunization of animals with a fragment of myelin protein, MOG 35-55 peptide. This initiates auto-immune reaction in the CNS and results in neurological motor symptoms. The symptoms of the disease manifest with progressive paralysis and the first signs appear 10 days following the initial immunization.

Study Design: The EAE-MOG model is induced in mice with a study being completed within 40 days from disease induction. The treatment can be delivered either prophylactically, before clinical signs appearance or at the disease onset for evaluating therapeutic potential.

We recommend including a control group treated with validated controls: dexamethasone or Methylprednisolone (Figure 1).

Mice are weighed and scored for clinical signs and severity of EAE daily. Study termination, at day 40 with CO2.

Measurements along the Study:

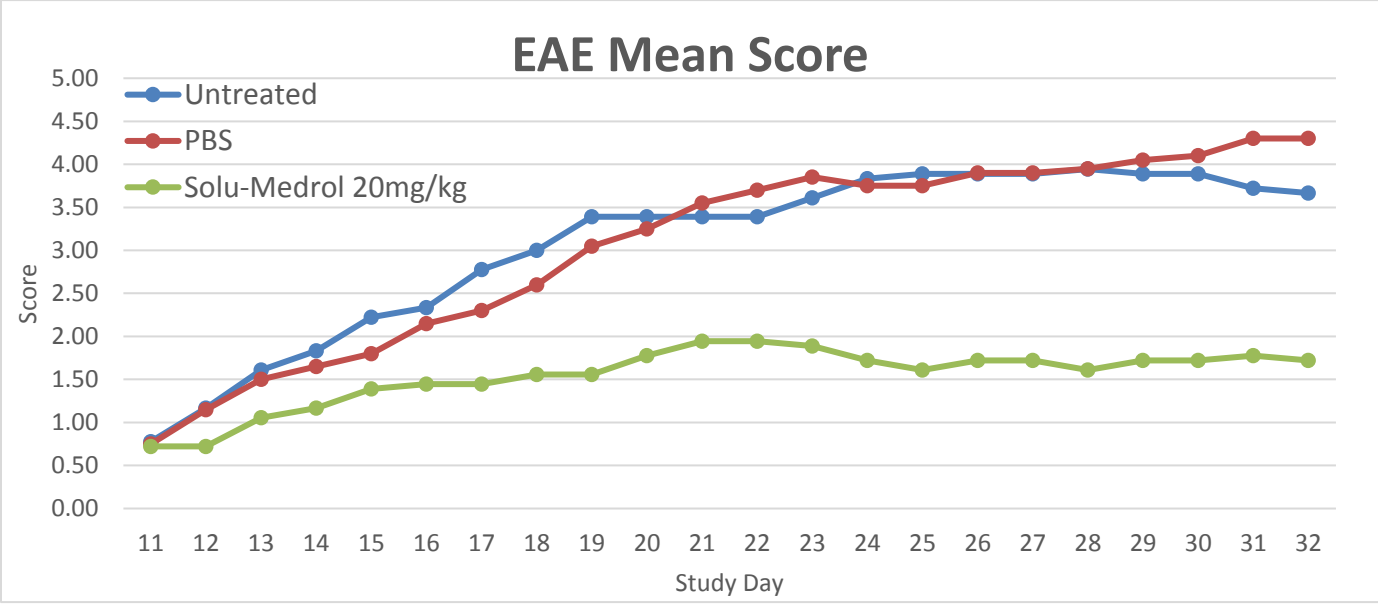
- Animal body weight measured daily.
- Clinical score is measured by observation of paralysis in mice by an experimenter blinded to the treatment group

End of Study Sample Collection and Analysis- Optional Upon Request:

- Tissue collection: blood, spinal cords, brains, cerebro-spinal fluid (CSF), lymph nodes, spleen cells.
- Cytokine production analysis – ELISA
- Analysis of T cell functions in vitro (antigen re-stimulation)

Please notice that, treatment and sample collection protocols are being coordinated and fully optimized to our customers' specific needs.

Figure 1. Typical results in a mouse EAE-MOG model.



C57BL6 mice immunized with MOG, develop signs of paralysis starting at day 10, with

symptoms alleviation and clinical score reduction following Methylprednisolone (Solu-Medrol) treatment

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