mdbiosciences.

Electrophysiology
in vivo recording

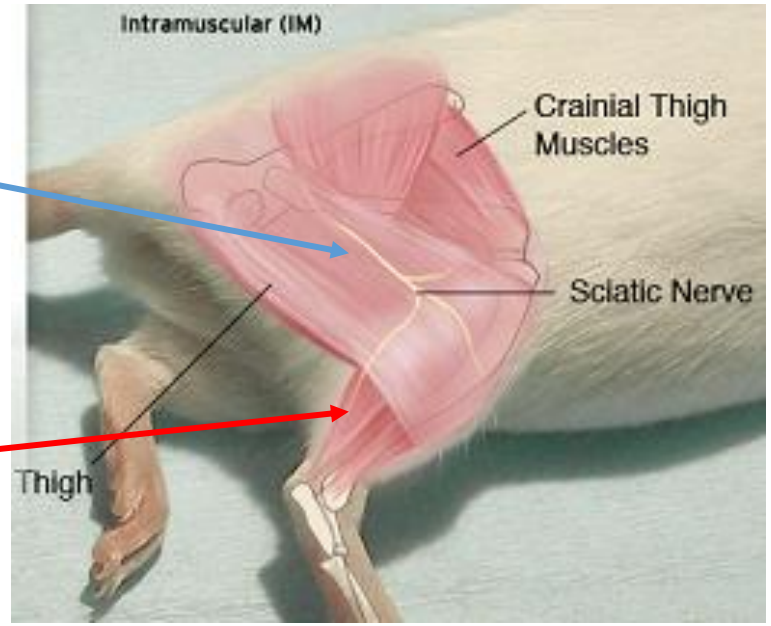
Peripheral nerve injury in rats:

mdbiosciences.

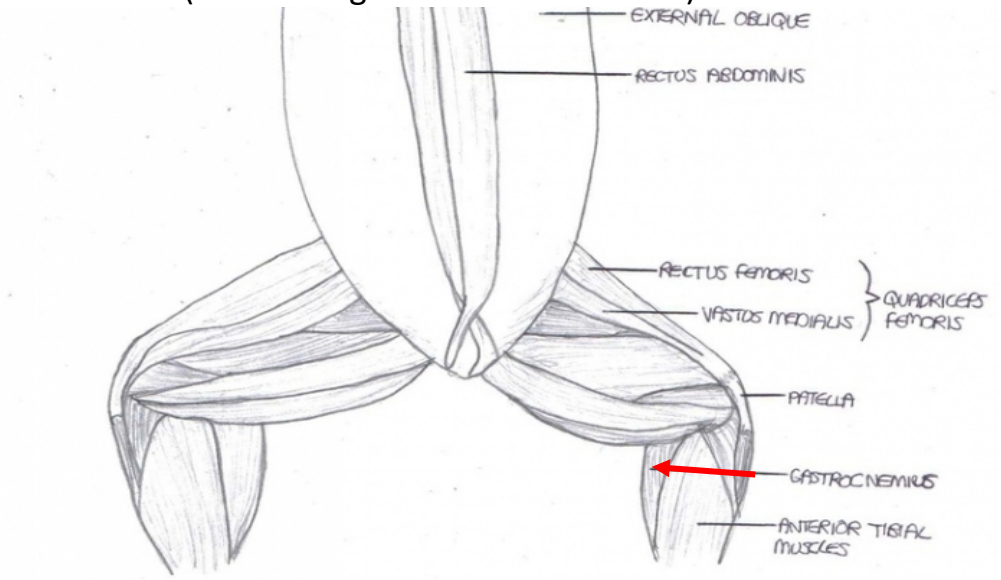
Compound Muscle Action Potentials (cMAPs) from the gastrocnemius muscle

Area of sciatic nerve dissection

Recording from gastrocnemius muscle



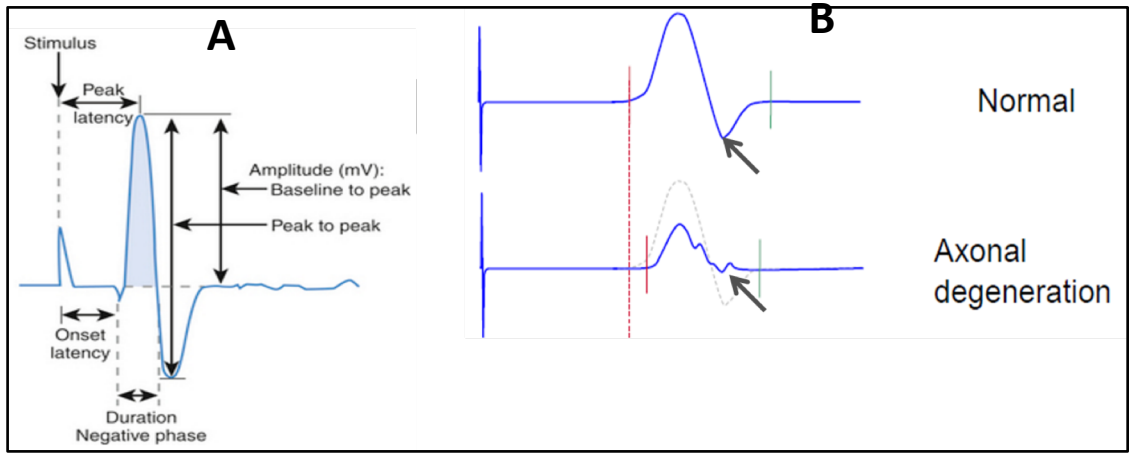
Graphic drawing of rat hind leg muscles
(in red the gastrocnemius muscle)



A schematic presentation of cMAPs

A) Graphic presentation of action potential and the parameters that are recorded (i.e., Amplitude; Peak to peak, onset latency and duration).

B) Schematic presentation of recording from normal (top) and injured nerve (bottom).

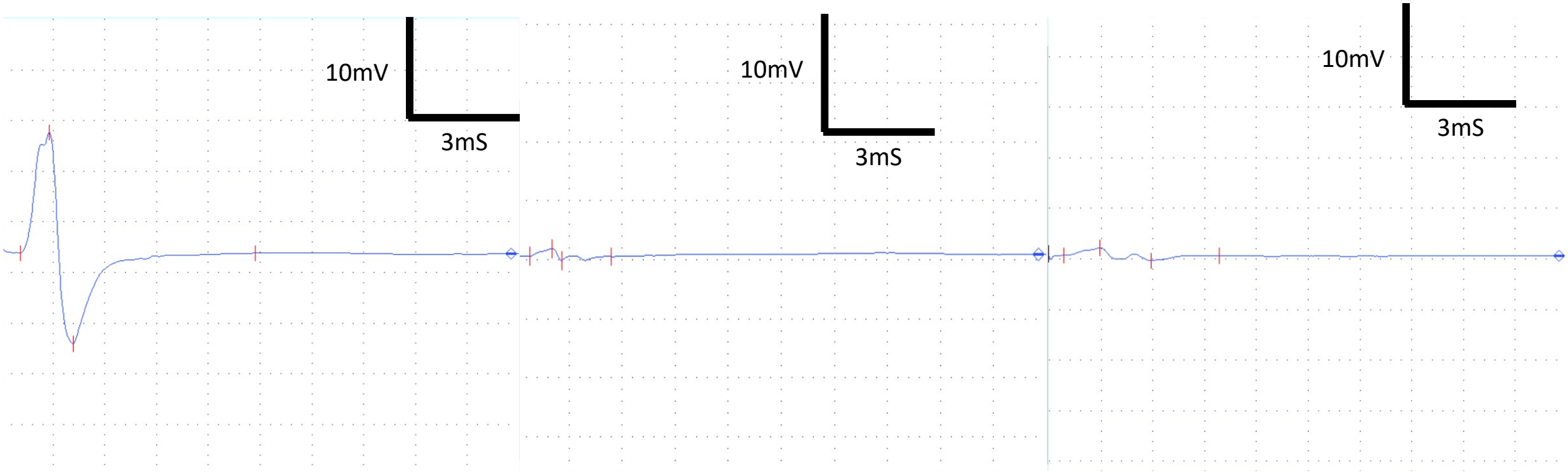


An animal with no recovery

Healthy animal

4 week post operation

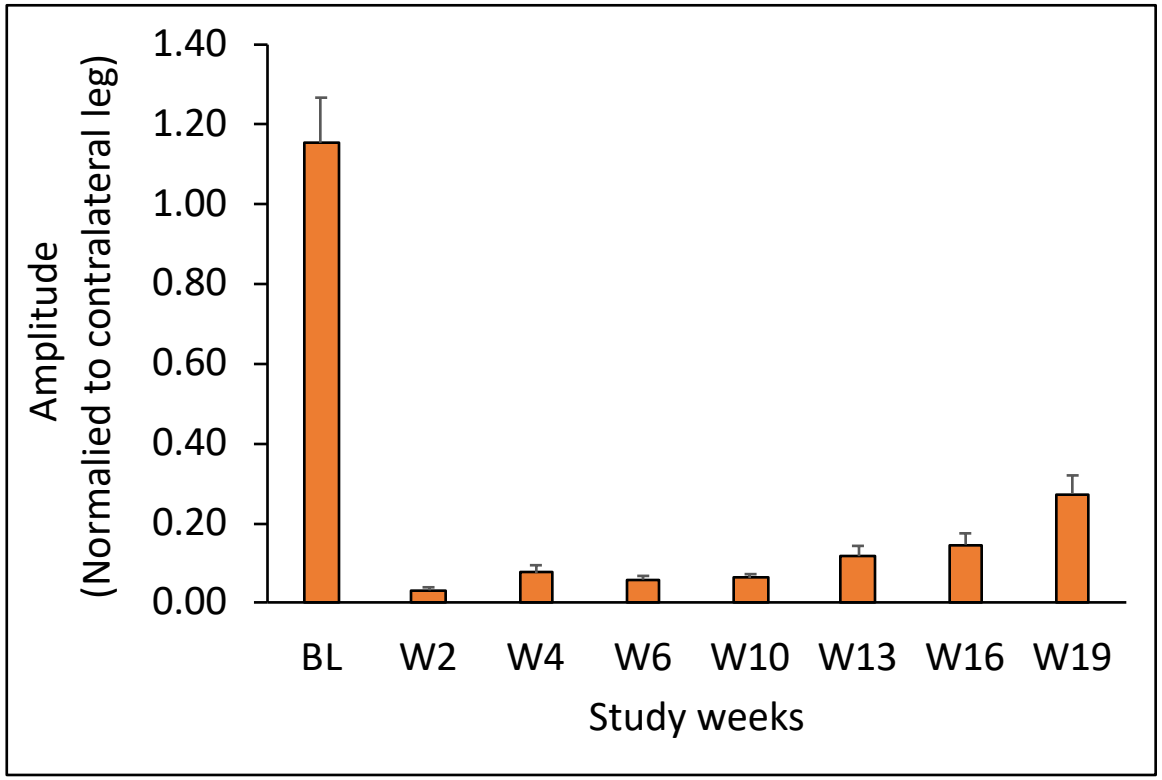
4 month post operation

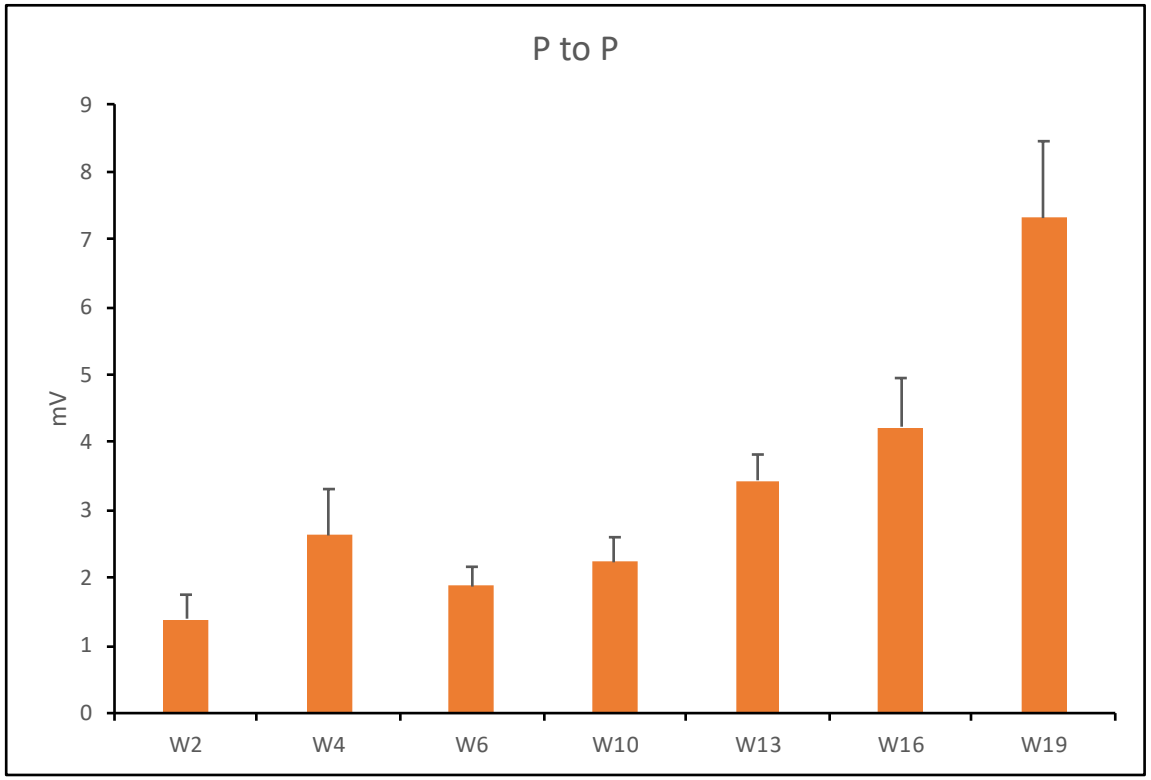


Peripheral nerve injury in rats:

cMAP representative results (n=10)

Representative data from sciatic nerve dissection model in rats

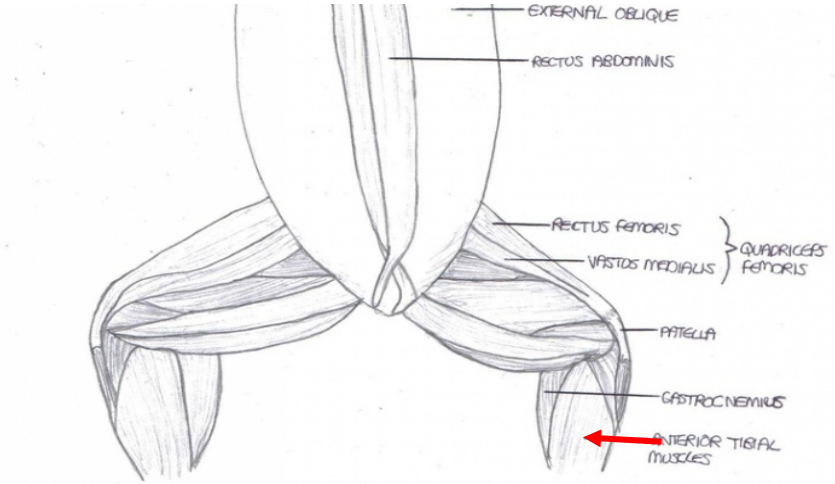


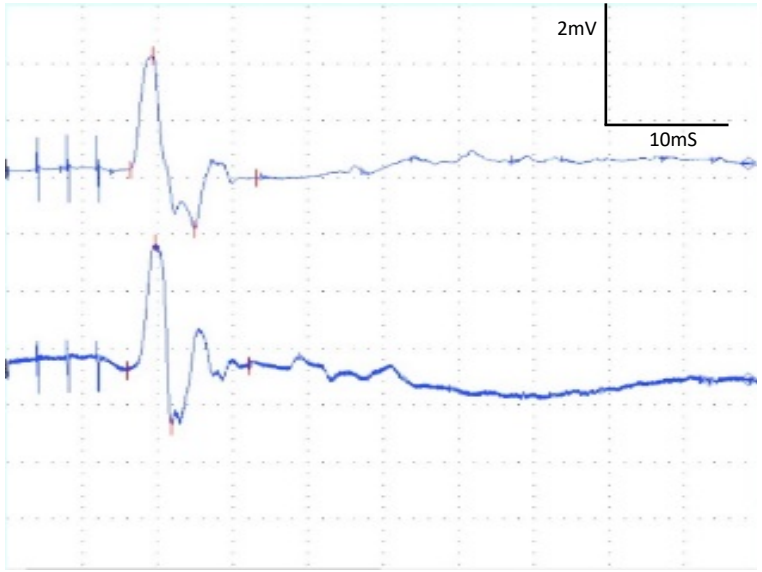


Recording from normal rats

Transcranial electric motor evoked potentials (tcMEPs)

Recording from the bilateral tibialis anterior (TA) muscles using paired subdermal needle electrodes. **TcMEP** stimulating electrodes were placed anterior to the C3 and C4 scalp positions

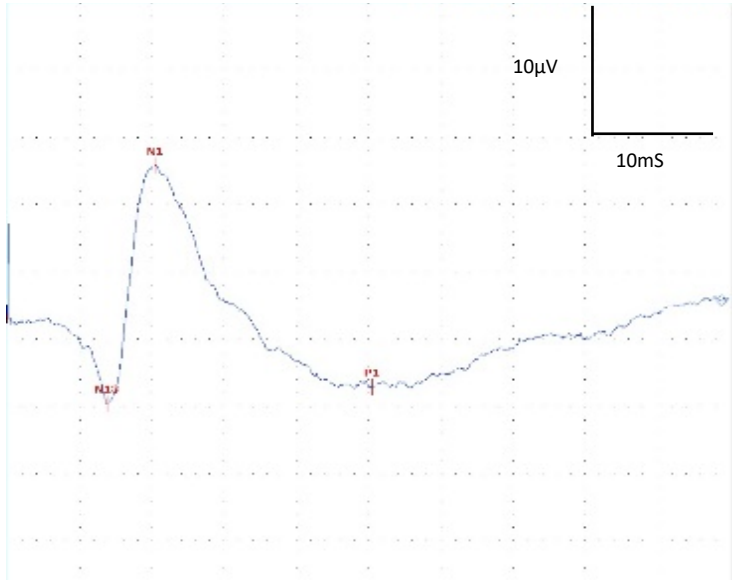




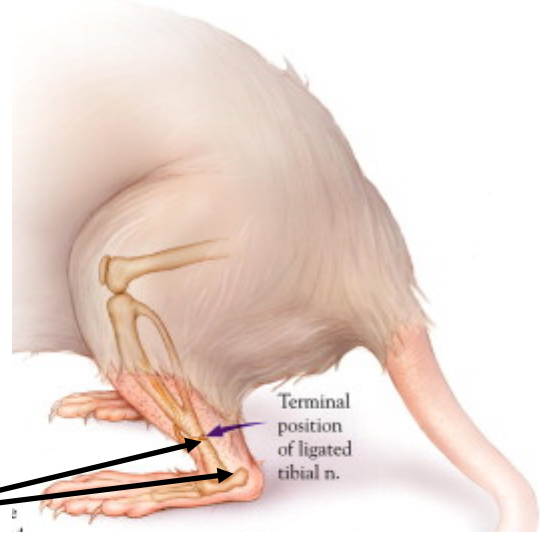
Recording from normal rats

Somatosensory evoked potential (SSEP)

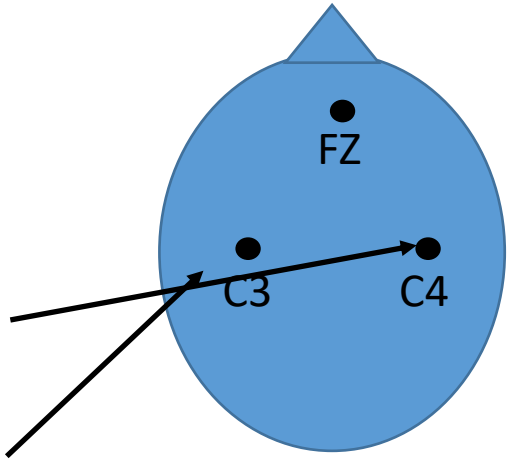
Electrodes are placed along the medial aspect of each ankle at the malleoli for **bipolar stimulation** of the posterior tibial nerves (PTN). Somatosensory evoked potentials (SSEP) were recorded over the cerebral cortex using subdermal needle electrodes placed posterior to the C3 and C4 scalp positions



Stimulating electrodes: PTN

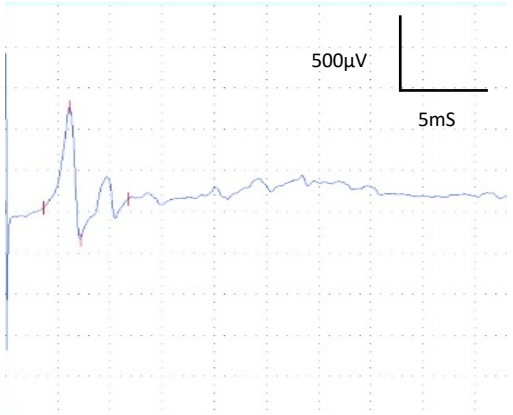


Recording electrodes: C3 and C4 scalp positions



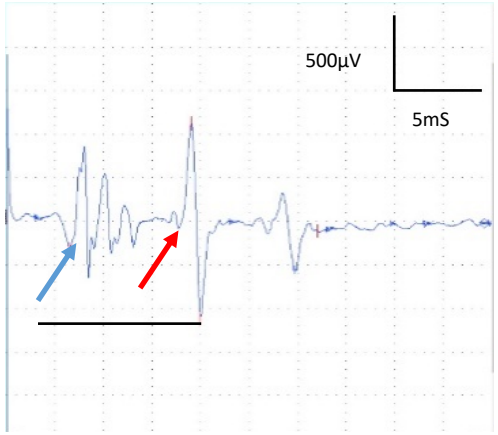
An Example: tcMEP Recordings from TA muscle in a MOG induced EAE in mice

Healthy animal



A healthy potential recorded from a naive mouse

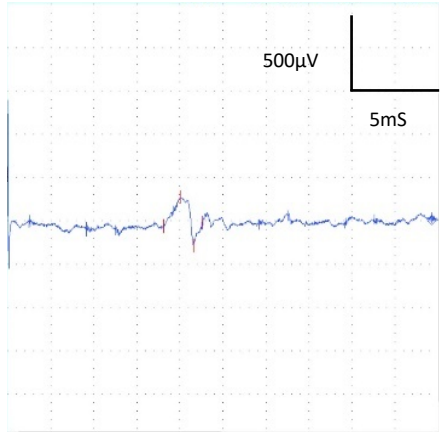
Recording from MOG induced animal with a score of 1-2



Desynchronized potential recording:

- Multiple picks of potential (blue arrow)
- Late latency for the main potential (red arrow)
- Extended duration of the total event (Black line).

Recording from MOG induced animal with a score of 3-4



Small and weak potential