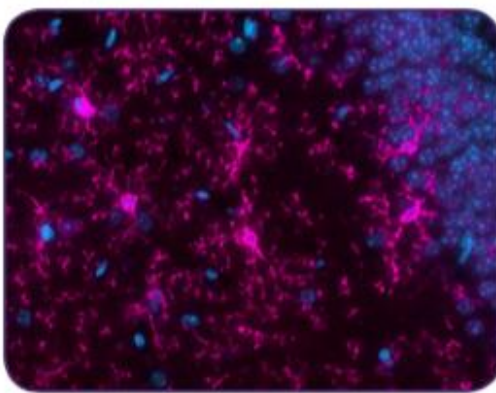


Microglia

Microglia are the resident macrophages in the central nervous system (CNS), which actively survey their surrounding domain and can rapidly respond to environmental changes such as an immune threat. As a consequence, these cells undergo morphological changes to take on an amoeboid shape and become phagocytic to remove the encountered threat. In the steady-state condition, microglia can be identified by microscopy using several common markers which they share with macrophages, such as CD11b, CD45, and CX3CR1.

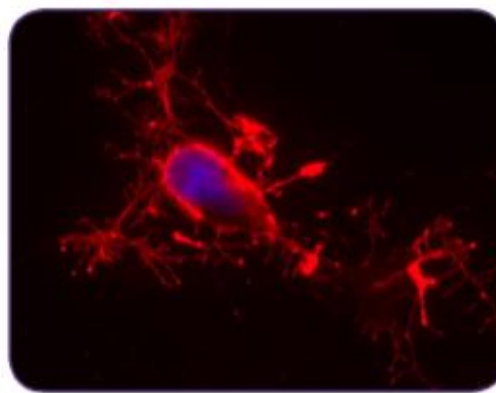
These cells also express specific markers, such as P2RY12 and TMEM119, which allow for their distinction from other cell types in the brain as well as peripheral immune cells. Usage of a combination of P2RY12 and CD45 may allow the distinction between resident vs. peripheral cells, as microglia will stain positive for both markers whereas peripheral immune cells will only stain positive for CD45. This distinction becomes important under inflammatory conditions where peripheral cells infiltrate the brain.

P2RY12



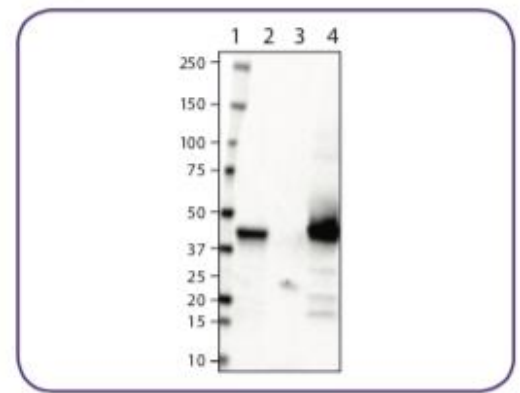
IHC staining of purified anti-P2RY12 antibody (clone S16007D, magenta) on FFPE mouse brain tissue. Nuclei were counterstained with DAPI (blue).

TMEM119



ICC staining of purified anti-TMEM119 (Extracellular) antibody (clone A16075D, red) on HEK293 cells transfected with human TMEM119. Nuclei were counterstained with DAPI (blue).

Chi3



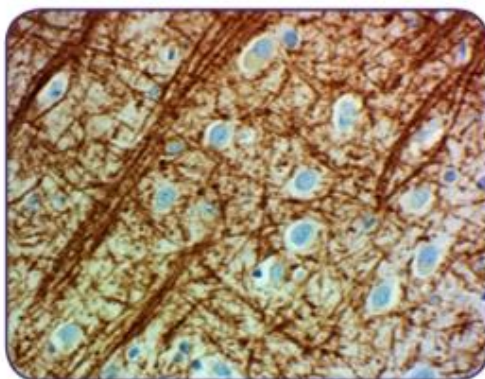
Western blot of purified anti-Chi3 antibody (clone W17046B). Lane 1: Molecular weight marker; Lane 2: 20 µg of mouse spleen lysate; Lane 3: 20 µg of human spleen lysate; lane 4: 10ng of recombinant mouse Chi3.

Oligodendrocytes

Oligodendrocytes (ODs) are a type of glial cell that produce myelin sheath to allow for the insulation of segments of neuronal axons. This enables high velocity signal transduction, which is essential for the propagation of action potentials along the axon. ODs also contribute to neuroplasticity and provide trophic support to neurons. Each OD can extend its processes to multiple axons and has a great capacity to rapidly renew its myelin sheath. Myelin basic protein (MBP) and myelin CNPase are specific markers that allow identification of oligodendrocytes.

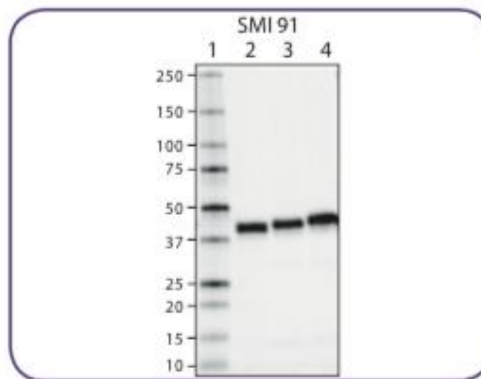
These markers may be of particular interest to those who study ODs, especially within a disease context, such as in multiple sclerosis (MS), where autoreactive antibodies against MBP have been shown to contribute to the pathogenesis and destruction of the myelin sheaths. These antibodies and others provided in the table below are particularly useful for IHC studies on the progression of normal and pathological myelination and OD development.

Myelin Basic Protein



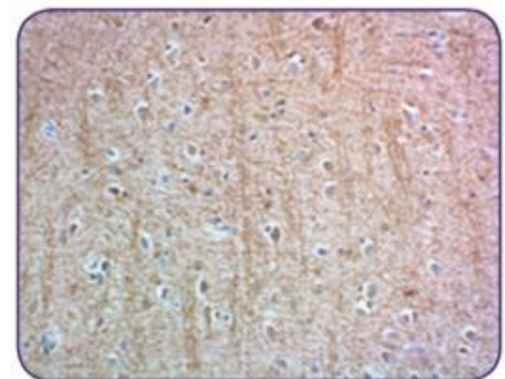
IHC staining of purified anti-Myelin Basic Protein antibody (clone SMI 94) on FFPE human brain tissue. The section was counterstained with hematoxylin.

Myelin CNPase



Western blot of HRP anti-Myelin CNPase antibody (clone SMI 91). Lane 1: Molecular weight marker; Lane 2: 20 µg of human brain lysate; Lane 3: 20 µg of mouse brain lysate; Lane 4: 20 µg of rat brain lysate.

MAG



IHC staining of purified anti-MAG antibody (clone B11F7) on FFPE human brain tissue. The section was counterstained with hematoxylin.