Myelin PLP Recombinant Antibody [PSH08-21] - Rat IgG1 (Chimeric) - BSA and Azide free

HA610247

Product Type:	Recombinant Chimeric Antibody, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	IHC-Fr, IHC-P, WB
Molecular Wt:	Predicted band size: 30 kDa
Clone number:	PSH08-21

Description: Proteolipid protein 1 (PLP1) is a form of myelin proteolipid protein (PLP). Mutations in PLP1 are associated with Pelizaeus–Merzbacher disease. It is a 4 transmembrane domain protein which is proposed to bind other copies of itself on the extracellular side of the membrane. In a myelin sheath, as the layers of myelin wraps come together, PLP will bind itself and tightly hold the cellular membranes together. This gene encodes a transmembrane proteolipid protein that is the predominant myelin protein present in the central nervous system (CNS). The encoded protein functions in myelination. This protein may play a role in the compaction, stabilization, and maintenance of myelin sheaths, as well as in oligodendrocyte development and axonal survival. Mutations associated with this gene cause X-linked Pelizaeus–Merzbacher disease and spastic paraplegia type 2. Two transcript variants encoding distinct isoforms have been identified for this gene. In melanocytic cells PLP1 gene expression may be regulated by MITF.

Immunogen: Recombinant protein within human Myelin PLP aa 1-233.

Positive control: Human brain tissue, mouse brain tissue, rat brain tissue, Mouse brain tissue lysate, Mouse liver tissue lysate, Rat brain tissue lysate, Rat liver tissue lysate.

Subcellular location: Cell membrane, Myelin membrane.

Database links: SwissProt: P60201 Human | P60202 Mouse | P60203 Rat

Recommended Dilutions:

IHC-Fr	1:1,000
IHC-P	1:1,000
WB	1:5,000

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

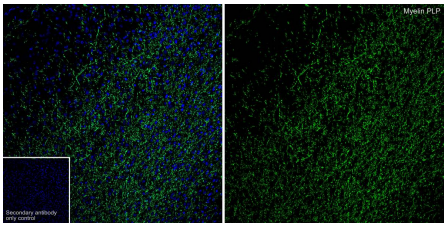

Fig1: Immunofluorescence analysis of frozen mouse brain tissue with Rat anti-Myelin PLP antibody (HA610247) at 1/1,000 dilution.

The section was not undergone antigen retrieval.

The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA610247, green) at 1/1,000 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rat IgG H&L (iFluor™ 488, HA1133) was used as the secondary antibody at 1/500 dilution. Nuclei were counterstained with DAPI (blue).

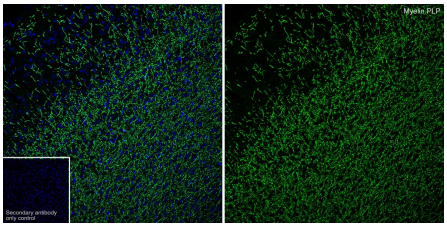

Fig2: Immunofluorescence analysis of frozen mouse brain tissue with Rat anti-Myelin PLP antibody (HA610247) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA610247, green) at 1/1,000 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rat IgG H&L (iFluor™ 488, HA1133) was used as the secondary antibody at 1/500 dilution. Nuclei were counterstained with DAPI (blue).

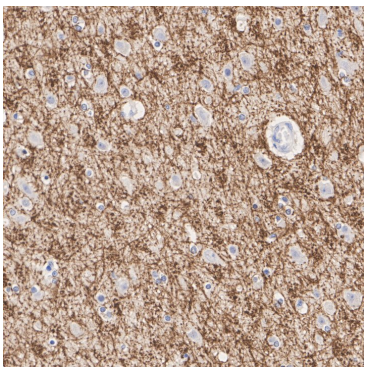

Fig3: Immunohistochemical analysis of paraffin-embedded human brain tissue with Rat anti-Myelin PLP antibody (HA610247) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA610247) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

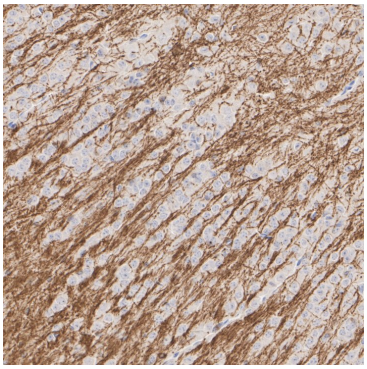

Fig4: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rat anti-Myelin PLP antibody (HA610247) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA610247) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

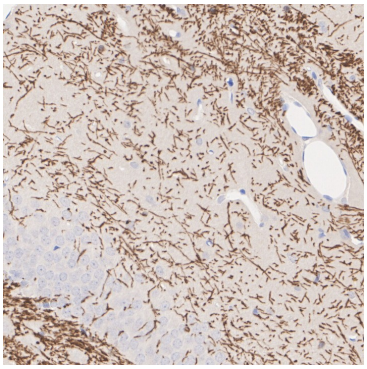

Fig5: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rat anti-Myelin PLP antibody (HA610247) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA610247) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

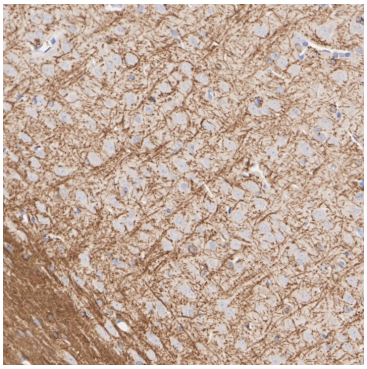

Fig6: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rat anti-Myelin PLP antibody (HA610247) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA610247) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

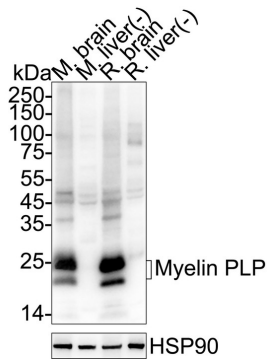

Fig7: Western blot analysis of Myelin PLP on different lysates with Rat anti-Myelin PLP antibody (HA610247) at 1/5,000 dilution.

Lane 1: Mouse brain tissue lysate (no heat) (20 µg/Lane)
Lane 2: Mouse liver tissue lysate (negative) (20 µg/Lane)
Lane 3: Rat brain tissue lysate (no heat) (20 µg/Lane)
Lane 4: Rat liver tissue lysate (negative) (20 µg/Lane)

Notice: no heat means the lysate is not boiled.

Predicted band size: 30 kDa
Observed band size: 25/20 kDa

Exposure time: 2 seconds; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA610247) at 1/5,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rat IgG H&L - HRP Secondary Antibody (HA1023) at 1/5,000 dilution was used for 1 hour at room temperature.

Background References

1. Ruskamo S et al. Human myelin proteolipid protein structure and lipid bilayer stacking. Cell Mol Life Sci. 2022 Jul
2. Mohammadi-Milasi F et al. In silico study of the association of the HLA-A*31:01 allele (human leucocyte antigen allele 31:01) with neuroantigenic epitopes of PLP (proteolipid protein), MBP (myelin basic protein) and MOG proteins (myelin oligodendrocyte glycoprotein) for studying the multiple sclerosis disease pathogenesis. J Biomol Struct Dyn. 2021 Apr