Mature Oligodendrocyte Marker Antibody Sampler Kit

HAK21018

Contains Product	Quantity	Applications	Species reactivity	MW(kDa)
Olig2 [ET1604-29]	20μl	WB,IHC-P,IHC-Fr,IF-Tissue,mIHC,IF-Cell	H,M,R	32 kDa
Myelin Basic Protein [ET1702-15]	20μl	WB,IHC-P,IF-Tissue,IHC-Fr,mIHC	H,M,R	33 kDa
MOG [ET1705-16]	20μl	WB,IHC-P,IF-Tissue,IHC-Fr	H,M,R	28 kDa
SOX10 [HA721240]	20μl	WB,IHC-P,IF-Cell,IF-Tissue,FC,IHC-Fr,IP	H,M,R	50 kDa
HRP-Goat anti-Rabbit IgG UltraPolymer [HA1119]	5ml	IHC-P	Rab	

Description: Mature Oligodendrocyte Marker Antibody Sampler Kit contains multiple trial-sized versions of anti-human and mouse antibody clones against MBP, MOG, Olig2,SOX10, specifically selected for high performance in various applications. This panel contains 5 recombinant rabbit monoclonal antibodies against MBP, MOG, Olig2,SOX10. They are provided as a sampler panel to allow you to easily evaluate each in your required applications.

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

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

Background

Oligodendrocytes are the glial cells responsible for producing the myelin sheath that insulates neuronal axons in the central nervous systems (CNS). During development, oligodendrocyte precursor cells (OPCs) are generated in successive waves from several germinal regions.The formation of oligodendrocytes from OPCs can be divided into four complex and precisely timed stages of proliferation, migration, differentiation, and myelination. The cells present at each stage can be identified using a panel of cellular markers.

Myelin basic protein (MBP) is an abundant CNS myelin membrane protein that plays an important role in nerve myelination. Myelin sheaths are multi-layered membranes derived from oligodendrocytes that increase the conduction velocity of axonal impulses. MBP helps to adhere the cytoplasmic leaflets of adjacent oligodendrocyte membranes to one another. Myelin oligodendrocyte glycoprotein was found exclusively in the CNS, where it is localized on the surface of myelin and oligodendrocyte cytoplasmic membranes.Olig2 strongly expressed in oligodendrogliomas, while expression is weak to moderate in astrocytomas.Sox10 is an important regulator of neural crest and peripheral nervous system development.

Database links: UniProt ID: Q13516, Q9EQW6, 22121, P02686, P04370, P02688, Q16653, Q61885, Q63345, P56693, Q04888, O55170

Images

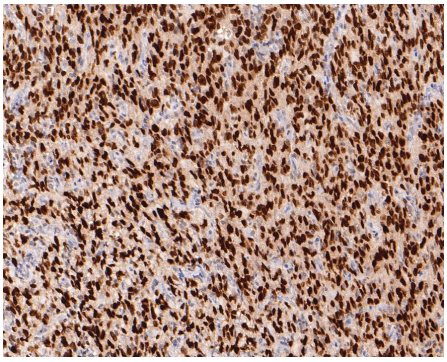

Fig1: Immunohistochemical analysis of paraffin-embedded human glioma tissue using anti-Olig2 antibody.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1604-29, 1/400) for 30 minutes 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.

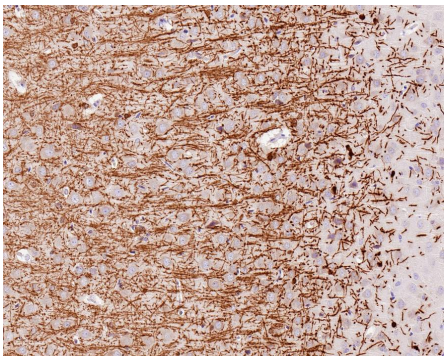

Fig2: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-Myelin Basic Protein antibody (ET1702-15) at 1/1,000 dilution.

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 (ET1702-15) 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.

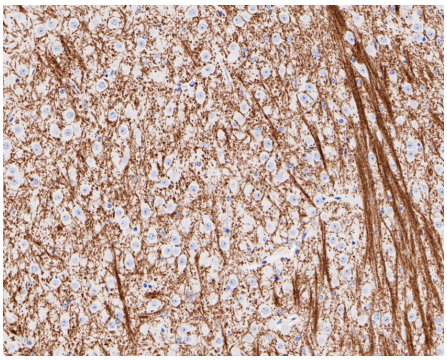

Fig3: Immunohistochemical analysis of paraffin-embedded mouse brain tissue using anti-Myelin oligodendrocyte glycoprotein antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1705-16, 1/200) for 30 minutes 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.

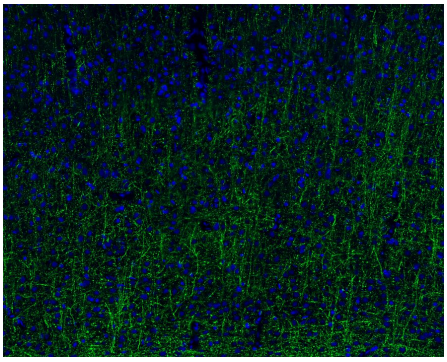

Fig4: Immunofluorescence analysis of frozen mouse cerebral cortex tissue labeling Myelin oligodendrocyte glycoprotein with Rabbit anti-Myelin oligodendrocyte glycoprotein antibody (ET1705-16).

The tissues were blocked in 3% BSA for 30 minutes at room temperature, washed with PBS, and then probed with the primary antibody (ET1705-16, green) at 1/50 dilution overnight at 4℃, washed with PBS. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) was used as the secondary antibody at 1/200 dilution. Nuclei were counterstained with DAPI (blue). Image acquisition was performed with KFBIO KF-FL-400 Scanner.

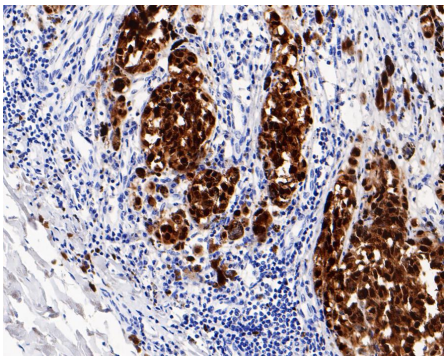

Fig5: Immunohistochemical analysis of paraffin-embedded human malignant melanoma tissue with Rabbit anti-SOX10 antibody (HA721240) at 1/3,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 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 (HA721240) at 1/3,000 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.

Background References

1. Harauz G, Boggs JM. Myelin management by the 18.5-kDa and 21.5-kDa classic myelin basic protein isoforms. J Neurochem. 2013 May;125(3):334-61.
2. Graf SA, Busch C, Bosserhoff AK, Besch R, Berking C. SOX10 promotes melanoma cell invasion by regulating melanoma inhibitory activity. J Invest Dermatol. 2014 Aug;134(8):2212-2220.
3. Michailidou I, Naessens DM, Hametner S, Guldenaar W, Kooi EJ, Geurts JJ, Baas F, Lassmann H, Ramaglia V. Complement C3 on microglial clusters in multiple sclerosis occur in chronic but not acute disease: Implication for disease pathogenesis. Glia. 2017 Feb;65(2):264-277.