Olig2 Recombinant Antibody [SP07-02] - Mouse IgG1 (Chimeric)

HA601629

Product Type:	Recombinant Chimeric, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	IHC-P, IF-Tissue, mIHC
Molecular Wt:	Predicted band size: 32 kDa
Clone number:	SP07-02

Description: The oligodendrocyte lineage-specific basic helix-loop-helix (OLIG) family of transcription factors include OLIG1-OLIG3, which differ in tissue expression. OLIG1 and OLIG2 are specifically expressed in nervous tissue as gene regulators of oligodendrogenesis. OLIG2 is more widely expressed in embryonic brain than OLIG1, while OLIG3 is primarily expressed in non-neural tissues. OLIG1 and OLIG2 interact with the Nkx-2.2 homeodomain protein, which is responsible for directing ventral neuronal patterning in response to graded Sonic hedgehog signaling in the embryonic neural tube. These interactions between OLIG proteins and Nkx-2.2 appear to promote the formation of alternate cell types by inhibiting V3 interneuron development. OLIG1 and OLIG2 are abundantly expressed in oligodendroglioma and nearly absent in astrocytomas. Therefore, OLIG proteins are candidates for molecular markers of human glial brain tumors, which are the most common primary malignancies of the human brain.

Immunogen: Synthetic peptide within Human Olig2 aa 238-287 / 323.

Subcellular location: Nucleus, Cytoplasm.

Database links: SwissProt: Q13516 Human | Q9EQW6 Mouse
Unigene: 22121 Rat

Recommended Dilutions:

IHC-P	1:200-1:1,000
IF-Tissue	1:100
mIHC	1:5,000

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

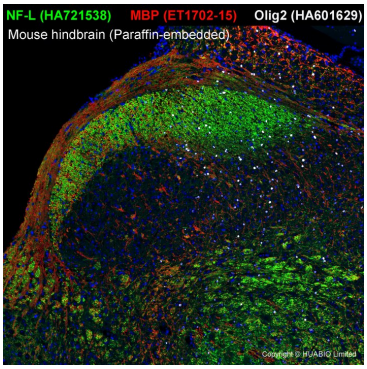

Fig1: mIHC analysis of mouse hindbrain tissue (paraffin-embedded) with Olig2 (HA601629, 1/5,000), NF-L (HA721538, 1/2,000) and MBP (ET1702-15, 1/10,000).

The immunostaining was performed with the IRISKitCmTSA Kit (900802). Blocking with 10% normal goat serum + 1% Triton X-100 + 0.3 M Glycine in TBST, 30 minutes at room temperature. DAPI (blue) was used as a nuclear counter stain. Image acquisition was performed with Olympus VS200 Slide Scanner.

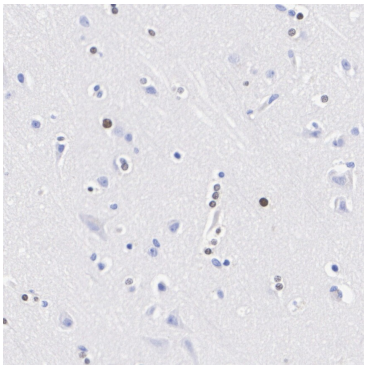

Fig2: Application: Immunohistochemistry (IHC-P)

Species: Human
Tissue: Brain
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA601629, 1/200, 1 hour at room temperature.
Secondary antibody: HA1120, 20 minutes at room temperature.

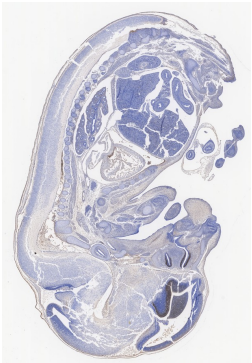

Fig3: Application: Immunohistochemistry (IHC-P)

Species: Mouse
Tissue: Embryo
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA601629, 1/1,000, 1 hour at room temperature.
Secondary antibody: HA1120, 20 minutes at room temperature.

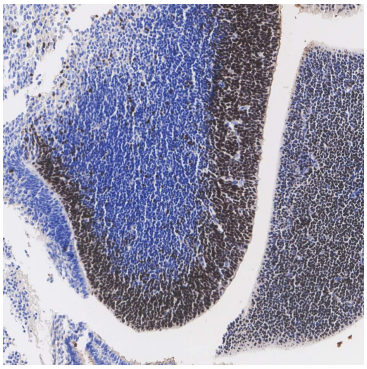

Fig4: Application: Immunohistochemistry (IHC-P)

Species: Mouse
Tissue: Embryo(brain)
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H O , 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA601629, 1/1,000, 1 hour at room temperature.
Secondary antibody: HA1120, 20 minutes at room temperature.

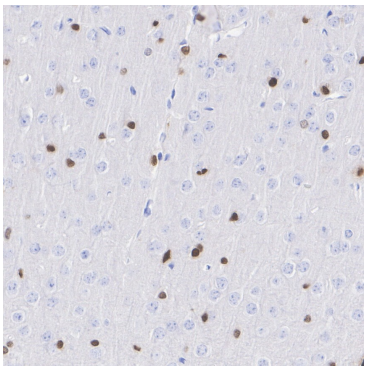

Fig5: Application: Immunohistochemistry (IHC-P)

Species: Mouse
Tissue: Brain
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H O , 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA601629, 1/1,000, 1 hour at room temperature.
Secondary antibody: HA1120, 20 minutes at room temperature.

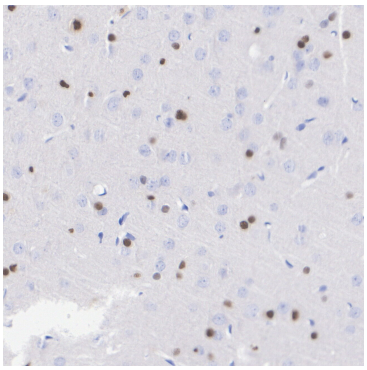

Fig6: Application: Immunohistochemistry (IHC-P)

Species: Rat
Tissue: Brain
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H O , 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA601629, 1/200, 1 hour at room temperature

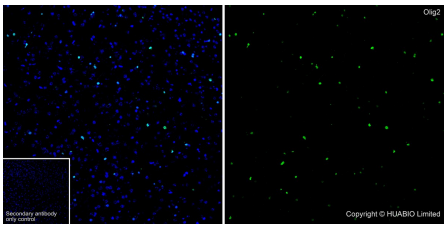

Fig7: Application: Immunofluorescence (IF-tissue)

Species: Mouse
Tissue: Brain
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Blocking: 10% normal goat serum + 1% Triton X-100 + 0.3 M Glycine in TBST, 30 minutes at room temperature.
Primary antibody: HA601629, 1/100, overnight at 4°C.
Secondary antibody: Goat Anti-Mouse IgG (iFluor™ 488, HA1125), 1.5 hours at room temperature.

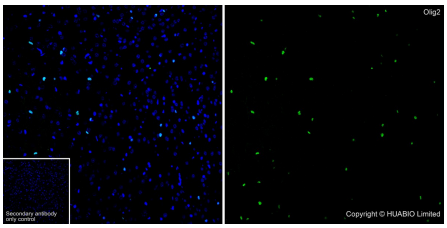

Fig8: Application: Immunofluorescence (IF-tissue)

Species: Rat
Tissue: Brain
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Blocking: 10% normal goat serum + 1% Triton X-100 + 0.3 M Glycine in TBST, 30 minutes at room temperature.
Primary antibody: HA601629, 1/100, overnight at 4°C.
Secondary antibody: Goat Anti-Mouse IgG (iFluor™ 488, HA1125), 1.5 hours at room temperature.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Kiely AP et al. a-Synucleinopathy associated with G51D SNCA mutation: a link between Parkinson's disease and multiple system atrophy Acta Neuropathol 125:753-69 (2013).
2. Wang K et al. Dynamic epigenetic regulation of the Oct4 and Nanog regulatory regions during neural differentiation in rhesus nuclear transfer embryonic stem cells. Cloning Stem Cells 11:483-96 (2009).