

Qty: 100µg/400 µL

Rabbit anti-OSP/Claudin-11

Catalog No. 36-4500

Lot No.

Rabbit anti-OSP/Claudin-11

FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.305

IMMUNOGEN

Synthetic peptide derived from the C-terminal region of human OSP/Claudin-11, which differs by only one amino acid from mouse and rat sequences.

SPECIFICITY

This antibody is specific for mouse OSP/Claudin-11. Based on amino acid sequence homology, cross-reactivity with human and rat is also expected. On Western blot analysis, a single band at ~ 22 kDa is observed when using a primary antibody concentration of 0.5 mg/mL or less. An additional band of ~ 44 kDa representing the dimerized protein may be observed when using a concentration of 1 µg/ml.

REACTIVITY

Reactivity has been confirmed with mouse brain homogenates. This antibody is suitable for immunoprecipitation from NP40-mouse brain homogenates, but not for RIPA-buffer mouse brain homogenates after treating with SDS-out. The protein may have precipitated out of solution along with the SDS.

| Sample | Western Blotting | ELISA | Immuno-precipitation | Immuno-fluorescence |
|-----------|------------------|-------|----------------------|---------------------|
| Mouse | +++ | ND | ++ | +++ |
| Human | ND | ND | ND | ND |
| Immunogen | N/A | +++ | N/A | N/A |

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA: 0.1-1.0 µg/mL
Western Blotting: 0.5-2 µg/mL
Immunoprecipitation: 1-10 µg/mL
Immunofluorescence: 2-5 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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PI364500

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BACKGROUND

Oligodendrocyte-specific protein (OSP) is a putative four-transmembrane protein of 22 kDa, which is primarily expressed in oligodendrocytes of the CNS and Sertoli cells of testes in the adult mouse.^{1,2} OSP is the third most abundant CNS myelin protein and contributes to 7% of the total myelin protein.³ OSP shares sequence homology with the claudin family of tight junction (TJ) proteins, forms TJs in cell culture, co-localizes with structures similar to TJs in myelin, and thus was renamed OSP/Claudin-11.² OSP/Claudin-11-null mice lack intramembranous junctions in between Sertoli cells in testes and within CNS myelin sheaths, producing reproductive and neurological deficiencies. This finding indicates that OSP/Claudin-11 is necessary for the formation of TJs.⁴

OSP/Claudin-11 expression is highly regulated during development, suggesting that it may play an important role in growth and differentiation of oligodendrocytes and other cells outside the CNS.⁵ OSP/Claudin-11 forms a complex with a novel member of the tetraspanin superfamily (OAP1) and β 1 integrin, and regulates proliferation and migration of oligodendrocytes, a process essential for normal myelination and repair.⁶ Claudin-11 is also expressed in the epithelial tight junctions of the choroids plexus.⁷ OSP/Claudin-11 has been implicated as an autoantigen in the development of autoimmune demyelinating disease.⁸

REFERENCES

1. Bronstein JM, et al. *Neurology* 47:772-778, 1996.
2. Morita K, et al. *J Cell Biol* 145:579-588, 1999.
3. Bronstein JM, et al. *J Neurosci Res* 50:713-720, 1997.
4. Gow A, et al. *Cell* 99:649-659, 1999.
5. Bronstein JM, et al. *J Neurosci Res* 60: 284-290, 2000.
6. Tiwari-Woodruff SK, et al. *Cell Biol* 153:295-305, 2001.
7. Wolburg H, et al. *Neurosci Lett* 307:77-80, 2001.
8. Bronstein JM, et al. *J Neurosci Res* 59:706-711, 2000.

RELATED PRODUCTS

| Product | Clone/PAD* | Cat. No. |
|------------------------|-------------------|-----------------|
| Rabbit anti-Claudin-1 | JAY.8 | 51-9000 |
| Rabbit anti-Claudin-1 | MH25 | 71-7800 |
| Rabbit anti-Claudin-2 | MH44 | 51-6100 |
| Mouse anti-Claudin-2 | 12H12 | 32-5600 |
| Rabbit anti-Claudin-3 | Z23.JM | 34-1700 |
| Mouse anti-Claudin-4 | 3E2C1 | 32-9400 |
| Mouse anti-Claudin-5 | 4C3C2 | 35-2500 |
| Rabbit anti-Claudin-5 | Z43.JK | 34-1600 |
| Rabbit anti-Claudin-7 | ZMD.241 | 34-9100 |
| Rabbit anti-Claudin-14 | ZMD.286 | 36-4200 |
| Mouse anti-Claudin-15 | 4C12C5 | 32-9800 |
| Rabbit anti-Claudin-16 | ZMD.178 | 34-5400 |
| Protein A | Sepharose® 4B | 10-1041 |
| rec-Protein G | Sepharose® 4B | 10-1241 |

*PAD: Polyclonal Antibody Designation

| Conjugate | ZyMAX™ Goat x Rabbit IgG (H+L) | ZyMAX™ Goat x Mouse IgG (H+L) |
|------------------|---------------------------------------|--------------------------------------|
| Purified | 81-6100 | 81-6500 |
| FITC | 81-6111 | 81-6511 |
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| Cy™3 | 81-6115 | 81-6515 |
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