

# Anti-Synaptophysin, clone SY38

## Monoclonal Antibody

**Cat. # MAB5258-I**

**Lot # 2814664**

FOR RESEARCH USE ONLY  
NOT FOR USE IN DIAGNOSTIC PROCEDURES  
NOT FOR HUMAN OR ANIMAL CONSUMPTION

**Pack Size: 100 µL**

**Concentration: 0.5 mg/mL**

**Storage: 2-8°C**



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page 1 of 2

| Applications        | Species Cross-Reactivity | Antibody Isotype | Epitope/Region | Host Species | Molecular Weight | Accession # |
|---------------------|--------------------------|------------------|----------------|--------------|------------------|-------------|
| IHC(P), IF, WB, ICC | M, B, H, R               | IgG1k            | N/A            | M            | ~38 kDa          | NP_776388   |

**Immunogen** Presynaptic vesicles from bovine brain (Wiedenmann, B., and Franke, W.W. (1985). Cell. 41(3):1017-1028).

**Specificity** Clone SY38 detects synaptophysin and stains synaptophysin-containing vesicles by targeting the flexible segment -SGGGG- in the center of the C-terminal pentapeptide repeats (Knaus, P., and Betz, H. (1990). FEBS Lett. 261(2):358-360).

**Species Cross-reactivity** Bovine (B), Human (H), Mouse (M), Rat (R).

**Molecular Weight** ~38 kDa observed. 33.91/34.03/33.31 kDa (bovine/mouse/rat), 33.85/20.76 kDa (human isoform 1/2) calculated. Uncharacterized bands may be observed in some lysate(s).

**Method of Purification** Protein G purified.

**Presentation** Purified mouse IgG1 in buffer containing 0.1 M Tris-Glycine (pH 7.4), 150 mM NaCl with 0.05% sodium azide.

**Storage and Handling** Stable for 1 year at 2-8°C from date of receipt.

**Quality Control Testing** Evaluated by Western Blotting in mouse hypothalamus tissue lysate.

Western Blotting Analysis (WB): A 1:1,000 dilution of this antibody detected Synaptophysin in 10 µg of mouse hypothalamus tissue lysate.

**Additional Applications** Immunohistochemistry Analysis (IHC): A 1:50 dilution from a representative lot detected Synaptophysin in human cerebellum and cerebral cortex tissue sections.

(Continued on page 2)

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Ver 1.0/2016-09-05/MAB5258-ICA/KB

## Additional Applications

Western Blotting Analysis (WB): A 1:1,000 dilution from a representative lot detected Synaptophysin in 10 µg of rat hippocampus and human whole brain tissue lysates.

Immunocytochemistry Analysis (ICC): Representative lots immunostained presynaptic vesicles of 4% formaldehyde-fixed, 0.2% Triton X-100-permeabilized primary mouse hippocampal neurons by fluorescent immunocytochemistry (Hu, X., *et al.* (2008). *J. Neurosci.* 28(49):13094-13105; Tarr, P.T., and Edwards, P.A. (2008). *J. Lipid Res.* 49(1):169-182).

Immunofluorescence Analysis (IF): A representative lot immunostained presynaptic membrane of neurons by fluorescent immunohistochemistry staining of 4% paraformaldehyde-fixed, 0.3% Triton X-100-permeabilized, OCT-embedded rat spinal cord cryosections (Stück, E.D., *et al.* (2012). *Neural Plast.* 2012:261345).

Immunofluorescence Analysis (IF): A representative lot immunostained synaptophysin around a large neuron in the ventral horn of the lumbar (L3/L4) segment by fluorescent immunohistochemistry staining of 2% paraformaldehyde/0.2% parabenzoquinone-fixed free-floating rat spinal cord sections (Macias, M., *et al.* (2009). *BMC Neurosci.* 10:144).

Immunofluorescence Analysis (IF): A representative lot immunostained synaptophysin in bovine (pancreas) and human (pancreas, pheochromocytoma, and islet-cell carcinoma) frozen tissue sections (Wiedenmann, B., *et al.* (1986). *Proc. Natl. Acad. Sci. U.S.A.* 83(10):3500-3504).

Western Blotting Analysis (WB): A representative lot detected an upregulated synaptophysin expression in human iPSCs with a 4-bp deletion in DISC1 gene (Wen, Z., *et al.* (2014). *Nature.* 515(7527):414-418).

Western Blotting Analysis (WB): A representative lot detected synaptophysin distribution among PC12 rat pheochromocytoma cell membrane fractions (Salazar, G., *et al.* (2005). *Mol. Biol. Cell.* 16(8):3692-3704).

Western Blotting Analysis (WB): A representative lot detected only synaptophysin recombinant constructs that contained the flexible segment -SGGG- in the center of the c-terminal pentapeptide repeats (Knaus, P., and Betz, H. (1990). *FEBS Lett.* 261(2):358-360).

For sample data please visit – [www.emdmillipore.com](http://www.emdmillipore.com)

## References

1. Wen, Z., *et al.* (2014). *Nature.* 515(7527):414-418.
2. Stück, E.D., *et al.* (2012). *Neural Plast.* 2012:261345.
3. Macias, M., *et al.* (2009). *BMC Neurosci.* 10:144.
4. Tarr, P.T., and Edwards, P.A. (2008). *J. Lipid Res.* 49(1):169-182.
5. Salazar, G., *et al.* (2005). *Mol. Biol. Cell.* 16(8):3692-3704.
6. Knaus, P., and Betz, H. (1990). *FEBS Lett.* 261(2):358-360.
7. Wiedenmann, B., *et al.* (1986). *Proc. Natl. Acad. Sci. U.S.A.* 83(10):3500-3504.

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