

## Dynamin 3

Cat.No. 115 302; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H <sub>2</sub> O, then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 up to 1 : 5000 (AP staining) <b>IP:</b> yes <b>ICC:</b> 1 : 500 up to 1 : 1000 <b>IHC:</b> 1 : 1000 up to 1 : 5000 <b>IHC-P/FFPE:</b> 1 : 500
Immunogen	Synthetic peptide corresponding to AA 773 to 794 from mouse Dynamin3 (UniProt Id: Q8BZ98)
Reactivity	Reacts with: rat (Q08877), mouse (Q8BZ98). Other species not tested yet.
Specificity	Specific for dynamin 3.
matching control	115-3P

### TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

**Dynamin** was discovered because of its binding to microtubules. It was later shown not to function in the cytoskeleton but in endocytosis. Dynamin is required for clathrin - mediated endocytosis. It contains a NH<sub>2</sub> - terminal GTPase domain, a middle pleckstrin - homology domain, and a COOH-terminal proline - rich sequence. The COOH - terminal sequence binds to amphiphilin which contains a SH3 domain that recognizes the proline - rich sequence of dynamin. There are at least three isoforms of dynamin: Dynamin 1 is enriched in synapses whereas dynamin 2 is ubiquitous and dynamin 3 is expressed in brain and testis. Neuronal dynamin 1 is phosphorylated by protein kinase C and dephosphorylated by calcineurin during an action potential in the nerve terminal. It is possible that the dephosphorylation provides a trigger for endocytosis.

### Selected References SYSY Antibodies

Evidence for a Clathrin-independent mode of endocytosis at a continuously active sensory synapse.

Fuchs M, Brandstätter JH, Regus-Leidig H

Frontiers in cellular neuroscience (2014) 8: 60. **IHC, EM; tested species: rat**

Modes and regulation of endocytic membrane retrieval in mouse auditory hair cells.

Neef J, Jung S, Wong AB, Reuter K, Pangrsic T, Chakrabarti R, Kügler S, Lenz C, Nouvian R, Boumil RM, Frankel WN, et al.

The Journal of neuroscience : the official journal of the Society for Neuroscience (2014) 34(3): 705-16. **IHC; tested species: mouse**

### Selected General References

Dynamin and its role in membrane fission.

Hinshaw JE

Annual review of cell and developmental biology (2000) 16: 483-519.

Accessory factors in clathrin-dependent synaptic vesicle endocytosis.

Slepnev VI, De Camilli P

Nature reviews. Neuroscience (2000) 1(3): 161-72.

Sequential steps in clathrin-mediated synaptic vesicle endocytosis.

Brodin L, Löw P, Shupliakov O

Current opinion in neurobiology (2000) 10(3): 312-20.

Synaptic vesicle biogenesis.

Hannah MJ, Schmidt AA, Huttner WB

Annual review of cell and developmental biology (1999) 15: 733-98.

The synaptic vesicle cycle: a cascade of protein-protein interactions.

Südhof TC

Nature (1995) 375(6533): 645-53.

Complexins: cytosolic proteins that regulate SNAP receptor function.

McMahon HT, Missler M, Li C, Südhof TC

Cell (1995) 83(1): 111-9.

Synaptic vesicles and exocytosis.

Jahn R, Südhof TC

Annual review of neuroscience (1994) 17: 219-46.

Differential expression and regulation of multiple dynamins.

Sontag JM, Fykse EM, Ushkaryov Y, Liu JP, Robinson PJ, Südhof TC

The Journal of biological chemistry (1994) 269(6): 4547-54.

Dynamin GTPase regulated by protein kinase C phosphorylation in nerve terminals.

Robinson PJ, Sontag JM, Liu JP, Fykse EM, Slaughter C, McMahon H, Südhof TC

Nature (1993) 365(6442): 163-6.

Molecular cloning of the microtubule-associated mechanochemical enzyme dynamin reveals homology with a new family of GTP-binding proteins.

Obar RA, Collins CA, Hammarback JA, Shpetner HS, Vallee RB

Nature (1990) 347(6290): 256-61.