

# E-Syt1 (P-15): sc-167812

## BACKGROUND

Synaptotagmins are a large gene family that function as regulators of both exocytosis and endocytosis and are involved in neurotransmitter secretion from small secretory vesicles. E-Syt1, E-Syt2 and E-Syt3 are Ca<sup>2+</sup>-regulated intrinsic membrane proteins that belong to the extended Synaptotagmins (E-Syts) family. Primary structures and biochemical properties of the E-Syts family are highly conserved from yeast to human and consist of multiple C2 domains, which mediate lipid and calcium binding. Ubiquitously expressed with highest expression in brain, members of the E-Syts family form heteromeric complexes and are thought to play a role in the formation of junctions between endoplasmic reticulum and plasma membrane. E-Syt1 (extended synaptotagmin-like protein 1), also known as MBC2 or FAM62A, is a 1,104 amino acid protein that exists as 2 alternatively spliced isoforms. The gene encoding E-Syt1 is located on human chromosome 12q13.2.

## REFERENCES

- Craxton, M. 2007. Evolutionary genomics of plant genes encoding N-terminal-TM-C2 domain proteins and the similar FAM62 genes and synaptotagmin genes of metazoans. *BMC Genomics* 8: 259.
- Min, S.W., et al. 2007. E-Syts, a family of membranous Ca<sup>2+</sup>-sensor proteins with multiple C2 domains. *Proc. Natl. Acad. Sci. USA* 104: 3823-3828.
- Craxton, M. 2010. A manual collection of Syt, Esyt, Rph3a, Rph3al, Doc2, and Dblc2 genes from 46 metazoan genomes—an open access resource for neuroscience and evolutionary biology. *BMC Genomics* 11: 37.
- Giordano, F., et al. 2013. PI(4,5)P(2)-dependent and Ca<sup>2+</sup>-regulated ER-PM interactions mediated by the extended synaptotagmins. *Cell* 153: 1494-1509.
- Herdman, C., et al. 2014. Loss of extended Synaptotagmins ESyt2 and ESyt3 does not affect mouse development or viability, but *in vitro* cell migration and survival under stress are affected. *Cell Cycle* 13: 2616-2625.

## CHROMOSOMAL LOCATION

Genetic locus: ESYT1 (human) mapping to 12q13.2; Esyt1 (mouse) mapping to 10 D3.

## SOURCE

E-Syt1 (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of E-Syt1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-167812 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

E-Syt1 (P-15) is recommended for detection of E-Syt1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with E-Syt2 or E-Syt3.

E-Syt1 (P-15) is also recommended for detection of E-Syt1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for E-Syt1 siRNA (h): sc-95714, E-Syt1 siRNA (m): sc-149302, E-Syt1 shRNA Plasmid (h): sc-95714-SH, E-Syt1 shRNA Plasmid (m): sc-149302-SH, E-Syt1 shRNA (h) Lentiviral Particles: sc-95714-V and E-Syt1 shRNA (m) Lentiviral Particles: sc-149302-V.

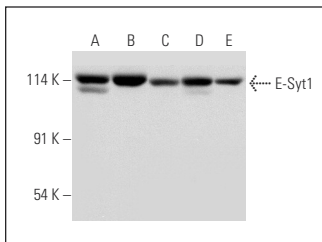
Molecular Weight of E-Syt1: 123 kDa.

Positive Controls: E-Syt1 (m): 293T Lysate: sc-121537, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

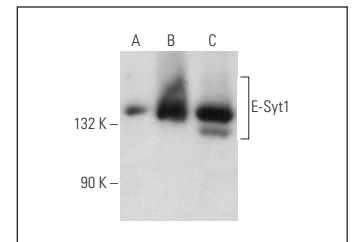
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



E-Syt1 (P-15): sc-167812. Western blot analysis of E-Syt1 expression in Jurkat (A), K-562 (B), HeLa (C), RT-4 (D) and U-251-MG (E) whole cell lysates.



E-Syt1 (P-15): sc-167812. Western blot analysis of E-Syt1 expression in non-transfected 293T: sc-117752 (A), mouse E-Syt1 transfected 293T: sc-121537 (B) and Jurkat (C) whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.