

E-Syt1 (C-1): sc-514488

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 Ca²⁺-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 Ca²⁺-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 Ca²⁺-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.

SOURCE

E-Syt1 (C-1) is a mouse monoclonal antibody raised against amino acids 42-130 mapping near the N-terminus of E-Syt1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

E-Syt1 (C-1) is available conjugated to agarose (sc-514488 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514488 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514488 PE), fluorescein (sc-514488 FITC), Alexa Fluor® 488 (sc-514488 AF488), Alexa Fluor® 546 (sc-514488 AF546), Alexa Fluor® 594 (sc-514488 AF594) or Alexa Fluor® 647 (sc-514488 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514488 AF680) or Alexa Fluor® 790 (sc-514488 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

E-Syt1 (C-1) is recommended for detection of E-Syt1 of human origin by Western Blotting (starting dilution 1:100, 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).

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

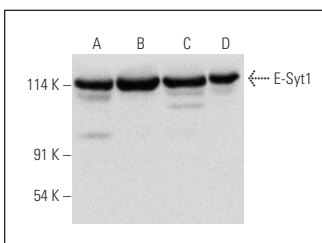
Molecular Weight of FAM62A: 123 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

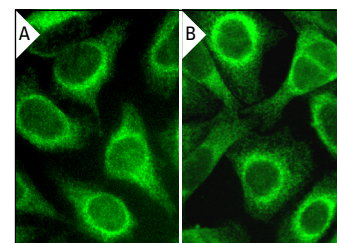
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



E-Syt1 (C-1): sc-514488. Western blot analysis of E-Syt1 expression in Jurkat (A), K-562 (B), HeLa (C) and U-251-MG (D) whole cell lysates.



E-Syt1 (C-1): sc-514488. Immunofluorescence staining of methanol-fixed HeLa (A) and SW480 (B) cells showing cytoplasmic localization.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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