SANTA CRUZ BIOTECHNOLOGY, INC.

MNSF-β (Q-20): sc-50846

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The Power to Question

BACKGROUND

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that facilitate the conjugation of Ub and Ub-like molecules to specific protein substrates. The first step requires the ATP-dependent activation of the Ub C-terminus and the assembly of multi-Ub chains by the Ub-activating enzyme known as the E1 component. The Ub chain is then conjugated to the Ub-conjugating enzyme (E2) to generate an intermediate Ub-E2 complex. The Ub-ligase (E3) then catalyzes the transfer of Ub from E2 to the appropriate protein substrate. A wide range of enzymes facilitate in the proteolytic Ub pathway, including monoclonal nonspecific suppressor factor-β (MNSF-β), a subunit of MNSF, which is a lymphokine product of a murine T cell hybridoma that restricts the production of LPS-induced immunoglobulin secreting cells in an antigen-nonspecific manner. MNSF-β is a ubiquitin-like fusion protein consisting of the ribosomal protein S30 and a protein that shares 36% sequence identity with ubiquitin. This ubiquitin-like segment (Ubi-L) can be cleaved from MNSF-β in the cytosol.

REFERENCES

1. Nakamura, M., Xavier, R.M., Tsunematsu, T. and Tanigawa, Y. 1995. Molecular cloning and characterization of a cDNA encoding monoclonal nonspecific suppressor factor. Proc. Natl. Acad. Sci. USA 92: 3463-3467.
2. Nakamura, M., Xavier, R.M. and Tanigawa, Y. 1995. Monoclonal nonspecific suppressor factor β inhibits interleukin-4 secretion by a type-2 helper T cell clone. Eur. J. Immunol. 25: 2417-2419.
3. Nakamura, M., Xavier, R.M. and Tanigawa, Y. 1996. Ubiquitin-like moiety of the monoclonal nonspecific suppressor factor β is responsible for its activity. J. Immunology 156: 532-538.
4. Nakamura, M. and Tanigawa, Y. 1998. Ubiquitin-like polypeptide conjugates to acceptor proteins in concanavalin A- and interferon γ-stimulated T cells. Biochem. J. 330: 683-688.
5. Nakamura, M. and Tanigawa, Y. 1999. Biochemical analysis of the receptor for ubiquitin-like polypeptide. J. Biol. Chem. 274: 18026-18032.
6. Nakamura, M. and Tanigawa, Y. 2003. Characterization of ubiquitin-like polypeptide acceptor protein, a novel pro-apoptotic member of the BCL2 family. Eur. J. Biochem. 270: 4052-4058.
7. Nakamura, M. and Tanigawa, Y. 2005. Noncovalent interaction of MNSF-β, a ubiquitin-like protein, with Histone 2A. Comp. Biochem. Physiol. B, Biochem. Mol. Biol. 140: 207-210.
8. Nie, G., Findlay, J.K. and Salamonsen, L.A. 2005. Identification of novel endometrial targets for contraception. Contraception 71: 272-281.

CHROMOSOMAL LOCATION

Genetic locus: FAU (human) mapping to 11q13.1; Fau (mouse) mapping to 19 A.

SOURCE

MNSF-β (Q-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of MNSF-β 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-50846 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MNSF-β (Q-20) is recommended for detection of MNSF-β 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).

MNSF-β (Q-20) is also recommended for detection of MNSF-β in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MNSF-β siRNA (h): sc-61063, MNSF-β siRNA (m): sc-61064, MNSF-β shRNA Plasmid (h): sc-61063-SH, MNSF-β shRNA Plasmid (m): sc-61064-SH, MNSF-β shRNA (h) Lentiviral Particles: sc-61063-V and MNSF-β shRNA (m) Lentiviral Particles: sc-61064-V.

Molecular Weight of MNSF-β: 15 kDa.

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.

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.