

UNC93B1 (F-12): sc-135546

BACKGROUND

UNC93B1 (UNC93 homolog B1), also known as UNC93 or UNC93B, is a 597 amino acid multi-pass membrane protein that is the human homolog of *C. elegans* unc93, a protein involved in the coordination and regulation of muscle contraction. Expressed in various tissues including heart and kidney, UNC93B1 localizes to the endoplasmic reticulum (ER) and is responsible for shuttling TLR7 (Toll-like receptor 7) and TLR9 (Toll-like receptor 9) from the ER to the endolysosomes, an event that leads to the subsequent activation of TLR7 and TLR9. Defects in the gene encoding UNC93B1 are associated with an increased susceptibility to herpes simplex encephalitis (HSE), a form of human herpesvirus (HHV) that is characterized by hemorrhagic necrosis of parts of the temporal and frontal lobes that often leads to death. Additionally, mutations in the UNC93B1 gene may be a cause of left ventricular diastolic heart failure in elderly men, suggesting an important role for UNC93B1 in proper heart function.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608204. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Arnlöv, J., et al. 2005. hUNC93B1, a novel gene mainly expressed in the heart, is related to left ventricular diastolic function, heart failure morbidity and mortality in elderly men. *Eur. J. Heart Fail.* 7: 958-965.
4. Tabeta, K., et al. 2006. The UNC93B1 mutation 3d disrupts exogenous antigen presentation and signaling via Toll-like receptors 3, 7 and 9. *Nat. Immunol.* 7: 156-164.
5. Casrouge, A., et al. 2006. Herpes simplex virus encephalitis in human UNC93B deficiency. *Science* 314: 308-312.
6. Koehn, J., et al. 2007. Assessing the function of human UNC93B in Toll-like receptor signaling and major histocompatibility complex II response. *Hum. Immunol.* 68: 871-878.
7. Conley, M.E. 2007. Immunodeficiency: UNC93B gets a toll call. *Trends Immunol.* 28: 99-101.
8. Huang, Y.H., et al. 2008. New therapeutic targets in immune disorders: ItpkB, Orai1 and UNC93B. *Expert Opin. Ther. Targets* 12: 391-413.
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CHROMOSOMAL LOCATION

Genetic locus: UNC93B1 (human) mapping to 11q13.2; Unc93b1 (mouse) mapping to 19 A.

STORAGE

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

SOURCE

UNC93B1 (F-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of UNC93B1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-135546 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UNC93B1 (F-12) is recommended for detection of UNC93B1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with UNC93A or UNC93B6.

UNC93B1 (F-12) is also recommended for detection of UNC93B1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for UNC93B1 siRNA (h): sc-97050, UNC93B1 siRNA (m): sc-154923, UNC93B1 shRNA Plasmid (h): sc-97050-SH, UNC93B1 shRNA Plasmid (m): sc-154923-SH, UNC93B1 shRNA (h) Lentiviral Particles: sc-97050-V and UNC93B1 shRNA (m) Lentiviral Particles: sc-154923-V.

Molecular Weight of UNC93B1: 66 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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