

# TMEM43 (F-3): sc-271887

## BACKGROUND

TMEM43 (transmembrane protein 43), also known as LUMA, ARVC5 or ARVD5, is a 400 amino acid multi-pass membrane protein that localizes to the inner nuclear membrane, as well as to the endoplasmic reticulum. Highly expressed in placenta and present at lower levels in ovary, heart, thymus, spleen, prostate, testis and small intestine, TMEM43 is required for retaining emerin at the nuclear membrane and may also play an important role in the maintenance of nuclear envelope structure. Defects in the gene encoding TMEM43 are the cause of familial arrhythmogenic right ventricular dysplasia type 5 (ARVD5), an inherited disorder that is characterized by heart failure, ventricular tachycardia, fibrofatty replacement of cardiomyocytes and sudden cardiac death.

## REFERENCES

- Ahmad, F., et al. 1998. Localization of a gene responsible for arrhythmogenic right ventricular dysplasia to chromosome 3p23. *Circulation* 98: 2791-2795.
- Norman, M.W., et al. 1999. Arrhythmogenic right ventricular cardiomyopathy: perspectives on disease. *Z. Kardiol.* 88: 550-554.
- Li, D., et al. 2000. The locus of a novel gene responsible for arrhythmogenic right-ventricular dysplasia characterized by early onset and high penetrance maps to chromosome 10p12-p14. *Am. J. Hum. Genet.* 66: 148-156.
- Dreger, M., et al. 2001. Nuclear envelope proteomics: novel integral membrane proteins of the inner nuclear membrane. *Proc. Natl. Acad. Sci. USA* 98: 11943-11948.
- Memer, N.D., et al. 2008. Arrhythmogenic right ventricular cardiomyopathy type 5 is a fully penetrant, lethal arrhythmic disorder caused by a missense mutation in the TMEM43 gene. *Am. J. Hum. Genet.* 82: 809-821.
- Bengtsson, L., et al. 2008. LUMA interacts with emerin and influences its distribution at the inner nuclear membrane. *J. Cell Sci.* 121: 536-548.
- Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612048. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: TMEM43 (human) mapping to 3p25.1; Tmem43 (mouse) mapping to 6 D1.

## SOURCE

TMEM43 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 239-261 within a cytoplasmic domain of TMEM43 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271887 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

TMEM43 (F-3) is recommended for detection of TMEM43 of mouse, rat and 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).

TMEM43 (F-3) is also recommended for detection of TMEM43 in additional species, including equine and canine.

Suitable for use as control antibody for TMEM43 siRNA (h): sc-78426, TMEM43 siRNA (m): sc-77360, TMEM43 shRNA Plasmid (h): sc-78426-SH, TMEM43 shRNA Plasmid (m): sc-77360-SH, TMEM43 shRNA (h) Lentiviral Particles: sc-78426-V and TMEM43 shRNA (m) Lentiviral Particles: sc-77360-V.

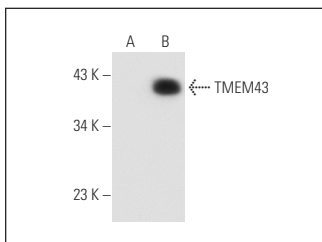
Molecular Weight of TMEM43: 45 kDa.

Positive Controls: TMEM43 (m): 293T Lysate: sc-124169 or EOC 20 whole cell lysate: sc-364187.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG<sub>λ</sub> BP-HRP: sc-516132 or m-IgG<sub>λ</sub> BP-HRP (Cruz Marker): sc-516132-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-IgG<sub>λ</sub> BP-FITC: sc-516185 or m-IgG<sub>λ</sub> BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



TMEM43 (F-3): sc-271887. Western blot analysis of TMEM43 expression in non-transfected: sc-117752 (A) and mouse TMEM43 transfected: sc-124169 (B) 293T whole cell lysates.

## 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.