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TMEM41B (CT) Antibody

Infectious Disease, COVID-19
Catalog # ASC12204

Product Information

Application	WB, IF, E
Primary Accession	Q5BJD5
Other Accession	Q5BJD5
Reactivity	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Clone Names	TMEM41B
Calculated MW	32513
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	WB: 2 µg/mL; IF: 20 µg/mL. Antibody validated: Western Blot in mouse and rat samples; Immunofluorescence in human, mouse and rat samples. All other applications and species not yet tested.

Additional Information

Gene ID	440026
Alias Symbol	TMEM41B
Other Names	TMEM41B Antibody: Transmembrane protein 41B, Protein stasimon, TMEM41B, KIAA0033.
Reconstitution & Storage	TMEM41B antibody can be stored at 4˚C for three months and -20˚C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	TMEM41B (CT) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TMEM41B {ECO:0000303|PubMed:30352685, ECO:0000312|HGNC:HGNC:28948}
Function	Phospholipid scramblase involved in lipid homeostasis and membrane dynamics processes (PubMed:33850023, PubMed:33929485, PubMed:34015269). Has phospholipid scramblase activity toward cholesterol and phosphatidylserine, as well as phosphatidylethanolamine and phosphatidylcholine (PubMed:33850023, PubMed:33929485,

PubMed:34015269). Required for autophagosome formation: participates in early stages of autophagosome biogenesis at the endoplasmic reticulum (ER) membrane by reequilibrating the leaflets of the ER as lipids are extracted by ATG2 (ATG2A or ATG2B) to mediate autophagosome assembly (PubMed:30093494, PubMed:30126924, PubMed:30933966, PubMed:33850023, PubMed:33929485, PubMed:34015269, PubMed:34043740). In addition to autophagy, involved in other processes in which phospholipid scramblase activity is required (PubMed:33850023). Required for normal motor neuron development (By similarity).

Cellular Location

Endoplasmic reticulum membrane; Multi-pass membrane protein. Endomembrane system Note=Localized to specific membrane structures termed mitochondria- associated membranes (MAMs) which connect the endoplasmic reticulum (ER) and the mitochondria.

Background

TMEM41B Antibody: TMEM41B is required for autophagosome formation and participates in early stages of autophagosome biogenesis at the ER membrane probably via mobilization of neutral lipids from lipid droplets. TMRM41B is a critical host factor required for infection by human coronaviruses SARS-CoV-2, HCoV-OC43, HCoV-NL63, and HCoV-229E, as well as all flaviviruses tested such as Zika virus and Yellow fever virus. It is required post-entry of the virus to facilitate the ER membrane remodeling necessary to form replication organelles.

References

Moretti et al. EMBO Rep. 2018; 19(9):e45889.
Shoemaker et al. PLoS Biol. 2019; 17(4):e2007044.
Schneider et al. Cell 2021; 184(1):120-132.
Hoffmann et al. Cell 2021; 184(1):133-148.e20.

Images

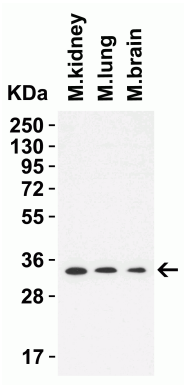
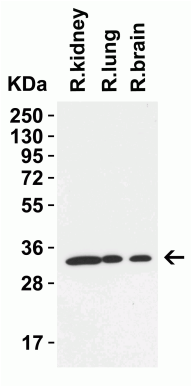


Figure 1 Western Blot Validation in Mouse Tissues
Loading: 15 µg of lysates per lane. Antibodies: TMEM41B ASC12204, 2 µg/mL, 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10,000 dilution.

Figure 2 Western Blot Validation in Rat Tissues
Loading: 15 µg of lysates per lane. Antibodies: TMEM41B ASC12204, 2 µg/mL, 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10,000 dilution.



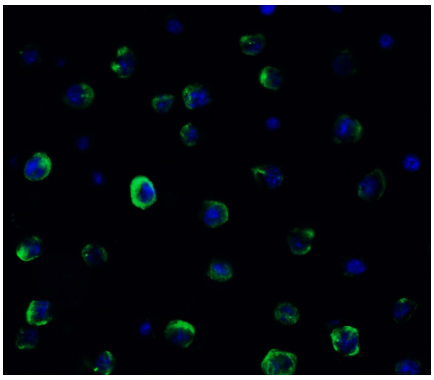


Figure 3 Immunofluorescence Validation of TMEM41B in HeLa Cells
Immunofluorescent analysis of 4% paraformaldehyde-fixed HeLa cells labeling TMEM41B with ASC12204 at 20 µg/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (green) and DAPI staining (blue).

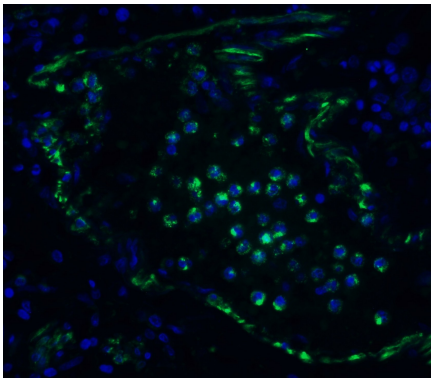


Figure 4 Immunofluorescence Validation of TMEM41B in Human Lung
Immunofluorescent analysis of 4% paraformaldehyde-fixed human lung labeling TMEM41B with ASC12204 at 20 µg/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (green) and DAPI staining (blue).

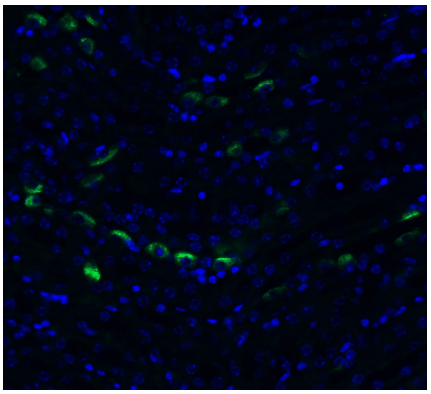
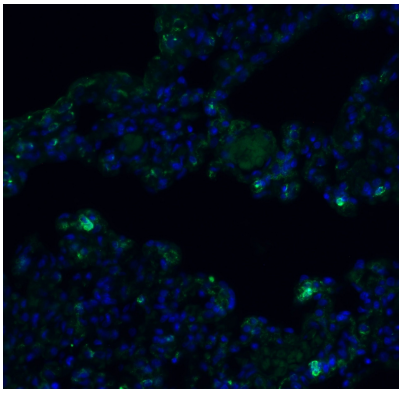


Figure 5 Immunofluorescence Validation of TMEM41B in Mouse Kidney
Immunofluorescent analysis of 4% paraformaldehyde-fixed mouse kidney labeling TMEM41B with ASC12204 at 20 µg/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (green) and DAPI staining (blue).

Figure 6 Immunofluorescence Validation of TMEM41B in Rat Lung
Immunofluorescent analysis of 4% paraformaldehyde-fixed rat lung labeling TMEM41B with ASC12204 at 20 µg/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (green) and DAPI staining (blue).



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