Human TMED1
Alexa Fluor® 405-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 1009524

Catalog Number: FAB22431V

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human TMED1 in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 1009524
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell, HEK293 derived human TMED1 Met1-Asn194 Accession # Q13445
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10^6 cells	HEK293 Human Cell Line Transfected with Human TMED1 and eGFP

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

TMED1 (Transmembrane Emp24 domain-containing protein 1) is a member of the TMED family of proteins (gene name TMED1). The TMED family of proteins are localized to membranes of the early secretory pathway, including the endoplasmic reticulum and Golgi, and function in vesicular protein trafficking (1, 2). TMED1 is a 59 kDa monomer and has been reported to exist as homodimer (3). TMED1 is composed of a 23 amino acid (aa) signal sequence, a 171 aa extra cellular domain, a 21 aa transmembrane domain, and a 12 aa cytoplasmic domain. The extracellular domain contains an 83 aa GOLD (Golgi Dynamics) domain, and COPI and COPII binding motifs are found in the cytoplasmic domain (1-3, 5). Human TMED1 shares 97% sequence identity with mouse, bovine, and rat homologs within the 171 aa extracellular domain. The β-strand-rich GOLD domain has been specifically identified to be involved in intracellular protein trafficking (1, 4, 5). TMED1 is important in regulating innate immune signaling through its interaction with ST2L. Specifically, the GOLD domain in TMED1 interacts with the TIR domain of ST2L, a receptor for IL-33 (1). This interaction promotes ST2L association with IL-33, allowing downstream signaling cascade activating MAP kinases, p38, and JNK (1, 6). Studies have shown knockdown of TMED-1 in HUVECs impairs the IL-33 induced response resulting in reduction of IL-6 and IL-8 productions (1).

References:

1. Connolly, D. *et al.* (2013) J Biol Chem. **288**:5616.
2. Gour, N. and Lajoie, S. (2018) Curr Allergy Ashma Rep. **16**:65.
3. Jenne, N. (2002) J Biol Chem. **277**:46504.
4. Anantharaman, V. and Aravind, L. (2002) Genome Biol. **3**:research0023
5. Gomez-Navarro, N. and Miller, E. (2016) J Cell Biol. **215**:769.
6. Hardman, C. and Ogg, G. (2016). Curr Opin Immunol. **42**:16.

PRODUCT SPECIFIC NOTICES

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