

DESCRIPTION

Species Reactivity	Human
Specificity	Detects a synthetic peptide specific for human TOMM20 containing amino acid 55 in Direct ELISA.
Source	Monoclonal Mouse IgG _{2B} Clone # 1074702
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	TOMM20 containing synthetic peptide Accession # Q15388
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

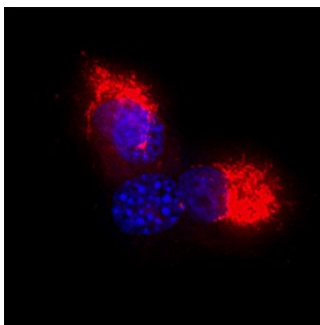
APPLICATIONS

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
Western Blot	2 µg/mL	HeLa human cervical epithelial carcinoma cell line and K562 human chronic myelogenous leukemia cell line
Immunocytochemistry	3-25 µg/mL	Immersion fixed A549 human lung carcinoma cell line
Immunohistochemistry	3-25 µg/mL	Immersion fixed paraffin-embedded sections of human lung and testis

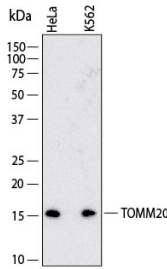
DATA

Immunocytochemistry



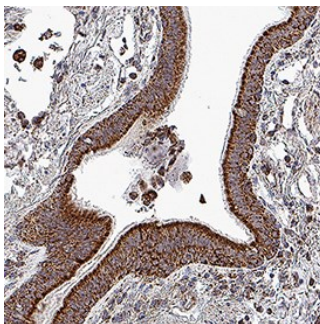
Detection of TOMM20 in A549 Human Cell Line. TOMM20 was detected in immersion fixed A549 human lung carcinoma cell line using Mouse Anti-Human TOMM20 Monoclonal Antibody (Catalog # MAB11604) at 8 µg/ml for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to the mitochondrion membrane. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

Western Blot



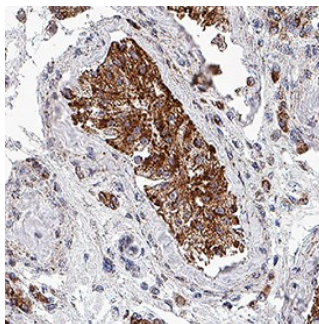
Detection of Human TOMM20 by Western Blot. Western Blot shows lysates of HeLa human cervical epithelial carcinoma cell line and K562 human chronic myelogenous leukemia cell line. PVDF membrane was probed with 2 µg/ml of Mouse Anti-Human TOMM20 Monoclonal Antibody (Catalog # MAB11604) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for TOMM20 at approximately 16 kDa (as indicated). This experiment was conducted under reducing conditions and using [Western Blot Buffer Group 1](#).

Immunohistochemistry



Detection of TOMM20 in Human Lung. TOMM20 was detected in immersion fixed paraffin-embedded sections of human lung using Mouse Anti-Human TOMM20 Monoclonal Antibody (Catalog # MAB11604) at 5 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the cytoplasm of bronchial epithelium. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

Immunohistochemistry



Detection of TOMM20 in Human Testis. TOMM20 was detected in immersion fixed paraffin-embedded sections of human testis using Mouse Anti-Human TOMM20 Monoclonal Antibody (Catalog # MAB11604) at 5 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the cytoplasm of epithelial and Leydig cells. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

TOMM20 (Translocase of Outer Mitochondrial Membrane 20) is a receptor and key unit of the TOM complex. The TOM complex translocates proteins produced from nuclear DNA through the mitochondrial membrane for use in oxidative phosphorylation. TOMM20 is a conserved outer membrane protein and depletion of TOMM20 produces a large number of dysfunctional mitochondria with the loss of membrane potential. Increased TOMM20 expression has been associated with malignancy of various cancers and contributes to tumorigenesis.

References:

1. Park SH, Lee AR, Choi K, Joung S, Yoon JB, Kim S. TOMM20 as a potential therapeutic target of colorectal cancer. *BMB Rep.* 2019 Dec;52(12):712-717. doi: 10.5483/BMBRep.2019.52.12.249. PMID: 31818360; PMCID: PMC6941759. Nijenhuis M., Hämmerling GJ. *J Immunol.* 1996 Dec 15;157(12):5467-77.
2. Yin L, Ye Y, Zou L, Lin J, Dai Y, Fu Y, Liu Y, Peng Y, Gao Y, Fu Y, Qi X, Deng T, Zhang S, Li X. AR antagonists develop drug resistance through TOMM20 autophagic degradation-promoted transformation to neuroendocrine prostate cancer. *J Exp Clin Cancer Res.* 2023 Aug 10;42(1):204. doi: 10.1186/s13046-023-02776-0. PMID: 37563661; PMCID: PMC10413764.

