Anti-Transglutaminase 2 Antibody [JU30-02]

ET1706-35

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 77 kDa
Clone number:	JU30-02

Description: Terminally differentiating mammalian epidermal cells acquire an insoluble, 10 to 20 nm thick protein deposit on the intracellular surface of the plasma membrane known as the cross-linked cell envelope (CE). The CE is a component of the epidermis that is generated through formation of disulfide bonds and g-glutamyl-lysine isodipeptide bonds, which are formed by the action of transglutaminases (TGases). TGases are intercellularly localizing, Ca2+-dependent enzymes that catalyze the formation of isopeptide bonds by transferring an amine on to glutaminyl residues, thereby cross-linking glutamine residues and lysine residues in substrate proteins. TGases influence numerous biological processes, including blood coagulation, epidermal differentiation, seminal fluid coagulation, fertilization, cell differentiation and apoptosis. Human keratinocyte transglutaminase (TGase1) is a membrane associated, 817 amino acid protein. Human tissue transglutaminase (TGase2) is an endothelial cell specific, 687 amino acid protein.

Immunogen: Synthetic peptide within Human Transglutaminase 2 aa 578-627 / 687.

Positive control: K-562 cell lysate, HeLa cell lysate, HUVEC cell lysate, Mouse placenta tissue lysate, human placenta tissue, mouse placenta tissue, rat placenta tissue.

Subcellular location: Cytosol. Plasma Membrane.

Database links: SwissProt: P21980 Human | P21981 Mouse
Entrez Gene: 56083 Rat

Recommended Dilutions:

WB	1:500-1:2,000
IHC-P	1:200

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

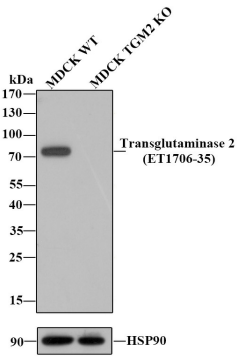

Fig1: All lanes: Western blot analysis of Transglutaminase 2 with anti-Transglutaminase 2 antibody [JU30-02] (ET1706-35) at 1:1,000 dilution.

Lane 1: Wild-type MDCK whole cell lysate.
Lane 2: TGM2 knockout MDCK whole cell lysate.

ET1706-35 was shown to specifically react with Transglutaminase 2 in wild-type Hela cells. No band was observed when TGM2 knockout samples were tested. Wild-type and TGM2 knockout samples were subjected to SDS-PAGE. Proteins were transferred to a PVDF membrane and blocked with 5% NFDM in TBST for 1 hour at room temperature. The primary Anti-Transglutaminase 2 antibody (ET1706-35, 1/1,000) and Anti-HSP90 antibody (ET1605-56, 1/10,000) were used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG H&L (HRP) Secondary Antibody (HA1001) at 1:200,000 dilution was used for 1 hour at room temperature.

Cell lysate was provided by Ubigene Biosciences (Ubigene Biosciences Co., Ltd., Guangzhou, China).

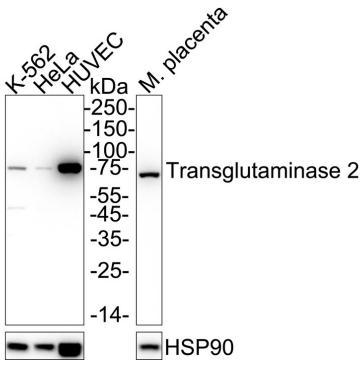

Fig2: Western blot analysis of Transglutaminase 2 on different lysates with Rabbit anti-Transglutaminase 2 antibody (ET1706-35) at 1/1,000 dilution.

Lane 1: K-562 cell lysate
Lane 2: HeLa cell lysate
Lane 3: HUVEC cell lysate
Lane 4: Mouse placenta tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 77 kDa
Observed band size: 70-77 kDa

Exposure time: 12 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1706-35) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

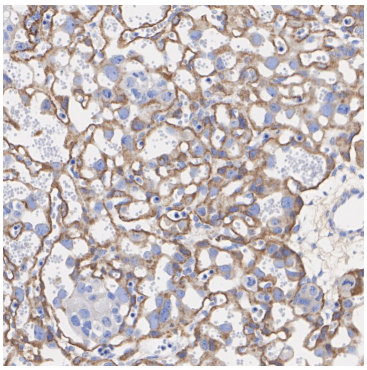

Fig3: Immunohistochemical analysis of paraffin-embedded mouse placenta tissue with Rabbit anti-Transglutaminase 2 antibody (ET1706-35) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1706-35) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

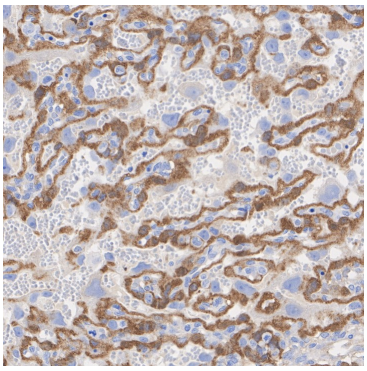

Fig4: Immunohistochemical analysis of paraffin-embedded rat placenta tissue with Rabbit anti-Transglutaminase 2 antibody (ET1706-35) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1706-35) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Espitia Pinzon N et al. Astrocyte-derived tissue Transglutaminase affects fibronectin deposition, but not aggregation, during cuprizone-induced demyelination. Sci Rep 7:40995 (2017).
2. Merlino G et al. Stromal Activation by Tumor Cells: An in Vitro Study in Breast Cancer. Microarrays (Basel) 5:2 (2016).