Anti-NDRG1 Antibody [JM32-02]

ET1705-20

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IF-Tissue, IHC-P, IP, IHC-Fr
Molecular Wt:	Predicted band size: 43 kDa
Clone number:	JM32-02

Description: Protein NDRG1 is a protein that in humans is encoded by the NDRG1 gene. This gene is a member of the N-myc downregulated gene family which belongs to the alpha/beta hydrolase superfamily. The protein encoded by this gene is a cytoplasmic protein involved in stress responses, hormone responses, cell growth, and differentiation[citation needed]. Mutations in this gene have been reported to be causative the autosomal-recessive version of Charcot-Marie-Tooth disease known as CMT4D. It has been reported that NDRG1 localizes to the endosomes and is a Rab4a effector involved in vesicular recycling. As reviewed by Fang et al., NDRG1 is involved in embryogenesis and development, cell growth and differentiation, lipid biosynthesis and myelination, stress responses, immunity, DNA repair and cell adhesion among other functions. NDRG1 is localised in the cytoplasm, nucleus and mitochondrion, at probabilities of 47.8%, 26.1% and 8.7%, respectively. In response to DNA damage NDRG1 translocates from the cytoplasm to the nucleus, where it may inhibit cell growth and promote DNA repair mechanisms. It is suggested that NDRG1 acts as a stress response gene or potentially as a transcription factor.

Immunogen:	Synthetic peptide within Human NDRG1 aa 345-394 / 394.
Positive control:	PC-3 cell lysate, SW480 cell lysate, RPMI 8226 cell lysate, RAW264.7 cell lysate, Mouse eyeball tissue lysate, Rat eyeball tissue lysate, MCF-7, A431, human prostate tissue, mouse kidney tissue, human colon carcinoma tissue.
Subcellular location:	Cytoplasm. Nucleus. Cell membrane.
Database links:	SwissProt: Q92597 Human | Q62433 Mouse | Q6JE36 Rat

Recommended Dilutions:

WB	1:500-1:2,000
IF-Cell	1:50-1:200
IF-Tissue	1:50-1:200
IHC-P	1:200-1:1,000
IP	1:50
IHC-Fr	1:200

Storage Buffer:	1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

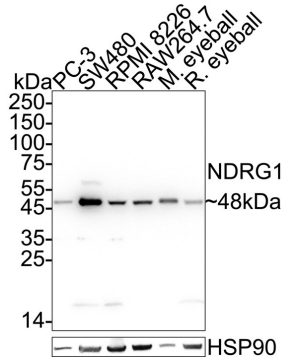

Fig1: Western blot analysis of NDRG1 on different lysates with Rabbit anti-NDRG1 antibody (ET1705-20) at 1/1,000 dilution.

Lane 1: PC-3 cell lysate (20 µg/Lane)
Lane 2: SW480 cell lysate (20 µg/Lane)
Lane 3: RPMI 8226 cell lysate (20 µg/Lane)
Lane 4: RAW264.7 cell lysate (20 µg/Lane)
Lane 5: Mouse eyeball tissue lysate (40 µg/Lane)
Lane 6: Rat eyeball tissue lysate (40 µg/Lane)

Lysates/proteins at 10 µg/Lane.

Predicted band size: 43 kDa
Observed band size: 48 kDa

Exposure time: 6 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 (ET1705-20) 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.

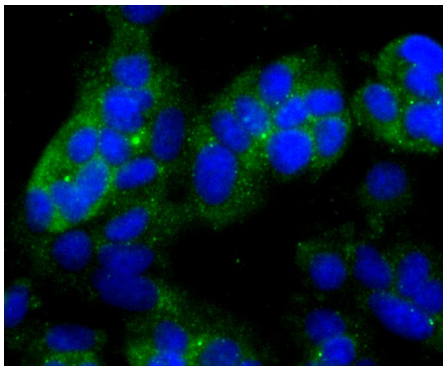

Fig2: ICC staining of NDRG1 in MCF-7 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the primary antibody (ET1705-20, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

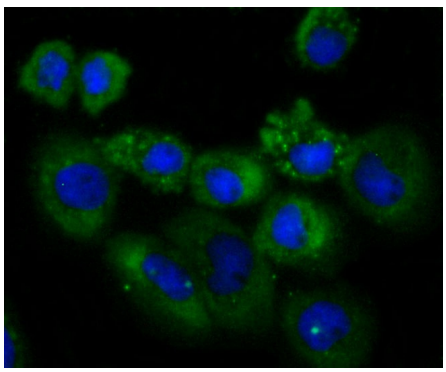

Fig3: ICC staining of NDRG1 in A431 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the primary antibody (ET1705-20, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

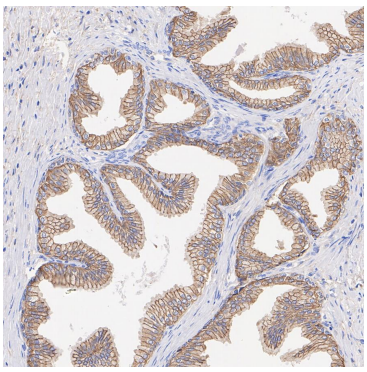

Fig4: Immunohistochemical analysis of paraffin-embedded human prostate tissue with Rabbit anti-NDRG1 antibody (ET1705-20) at 1/1,000 dilution.

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 (ET1705-20) at 1/1,000 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.

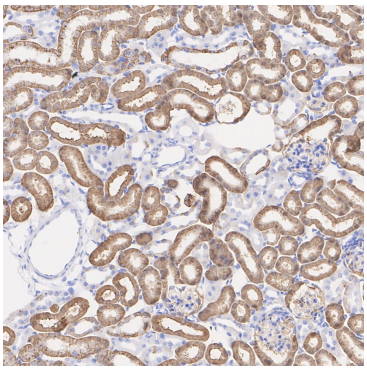

Fig5: Immunohistochemical analysis of paraffin-embedded mouse kidney tissue with Rabbit anti-NDRG1 antibody (ET1705-20) at 1/1,000 dilution.

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 (ET1705-20) at 1/1,000 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.

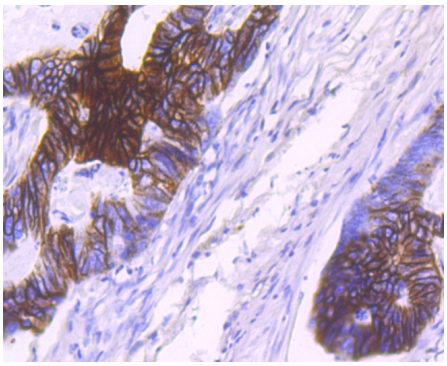

Fig6: Immunohistochemical analysis of paraffin-embedded human colon carcinoma tissue using anti-NDRG1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1705-20, 1/50) for 30 minutes 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.

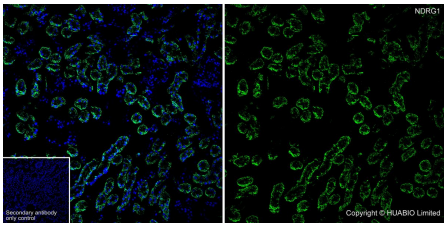

Fig7: Application: IHC-Fr

Species: Mouse

Site: kidney

Sample: Frozen section

Antibody concentration: 1/100

Antigen retrieval: Not required

Background References

1. Li X et al. Golgi Phosphoprotein 3 Inhibits the Apoptosis of Human Glioma Cells in Part by Downregulating N-myc Downstream Regulated Gene 1. Med Sci Monit 22:3535-3543 (2016).
2. Lee JE & Kim JH. Valproic acid inhibits the invasion of PC3 prostate cancer cells by upregulating the metastasis suppressor protein NDRG1. Genet Mol Biol 38:527-33 (2015).