Anti-Ndufs4 Antibody [JE44-69]

ET7109-37

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat, Zebrafish
Applications:	WB, IP, IHC-P, FC
Molecular Wt:	Predicted band size: 20 kDa
Clone number:	JE44-69

Description: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial (NDUFS4) also known as NADH-ubiquinone oxidoreductase 18 kDa subunit is an enzyme that in humans is encoded by the NDUFS4 gene. This gene encodes an nuclear-encoded accessory subunit of the mitochondrial membrane respiratory chain NADH dehydrogenase (complex I, or NADH:ubiquinone oxidoreductase). Complex I removes electrons from NADH and passes them to the electron acceptor ubiquinone. Mutations in this gene can cause mitochondrial complex I deficiencies such as Leigh syndrome. Complex I, or NADH:ubiquinone oxidoreductase, the first multisubunit enzyme complex of the mitochondrial respiratory chain, plays a vital role in cellular ATP production, the primary source of energy for many crucial processes in living cells. It removes electrons from NADH and passes them by a series of different protein-coupled redox centers to the electron acceptor ubiquinone. In well-coupled mitochondria, the electron flux leads to ATP generation via the building of a proton gradient across the inner membrane. Complex I is composed of at least 41 subunits, of which 7 are encoded by the mitochondrial genome (ND1-6, ND4L) and the remainder by nuclear genes.

Immunogen: Synthetic peptide within Human Ndufs4 aa 126-175 / 175.

Positive control: HCT 116 cell lysates, zebrafish tissue lysates, human kidney tissue, mouse kidney tissue, rat kidney tissue, 293T.

Subcellular location: Mitochondrion.

Database links: SwissProt: O43181 Human | Q9CXZ1 Mouse | Q5XIF3 Rat

Recommended Dilutions:

WB	1:500-1:1,000
IP	1:10-1:50
IHC-P	1:200-1:1,000
FC	1:50-1:100

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℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

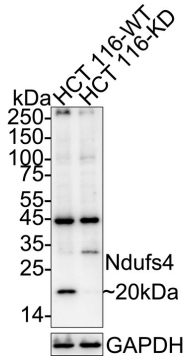

Fig1: Western blot analysis of Ndufs4 on different lysates with Rabbit anti-Ndufs4 antibody (ET7109-37) at 1/2,000 dilution.

Lane 1: HCT 116-si NT cell lysate
Lane 2: HCT 116-si Ndufs4 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 20 kDa
Observed band size: 20 kDa

Exposure time: 1 minute; ECL: K1802;

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 (ET7109-37) at 1/2,000 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.

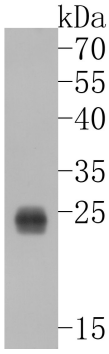

Fig2: Western blot analysis of Ndufs4 on zebrafish tissue lysates. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (ET7109-37, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:5,000 dilution was used for 1 hour at room temperature.

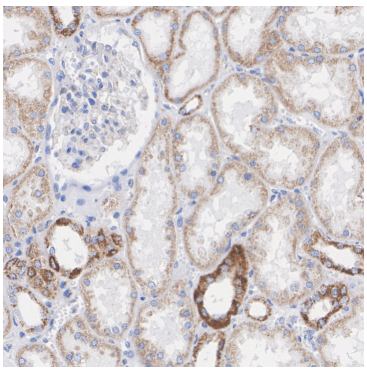

Fig3: Immunohistochemical analysis of paraffin-embedded human kidney tissue with Rabbit anti-Ndufs4 antibody (ET7109-37) at 1/200 dilution.

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 (ET7109-37) 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.

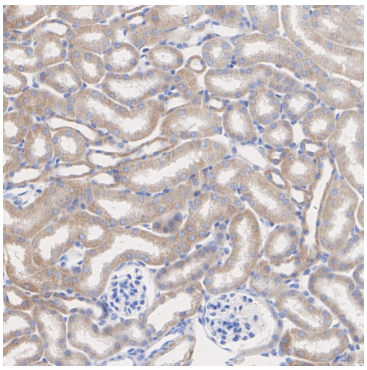

Fig4: Immunohistochemical analysis of paraffin-embedded mouse kidney tissue with Rabbit anti-Ndufs4 antibody (ET7109-37) at 1/200 dilution.

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 (ET7109-37) 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.

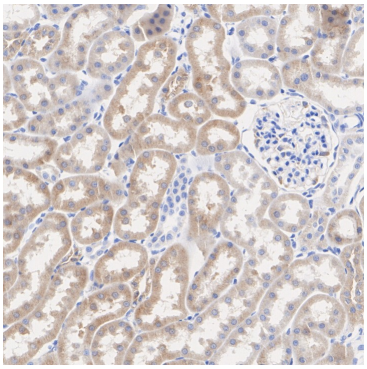

Fig5: Immunohistochemical analysis of paraffin-embedded rat kidney tissue using anti-Ndufs4 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes. The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the antibody (ET7109-37) at 1/100 dilution, for 30 minutes at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chrogen. Counter stained with hematoxylin and mounted with DPX.

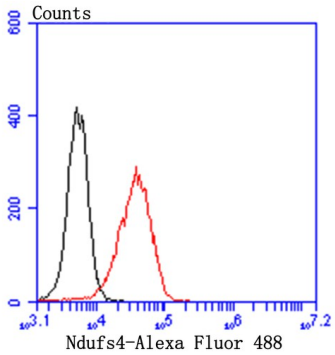

Fig6: Flow cytometric analysis of Ndufs4 was done on 293T cells. The cells were fixed, permeabilized and stained with Ndufs4 antibody at 1/100 dilution (red) compared with an unlabelled control (cells without incubation with primary antibody; black). After incubation of the primary antibody on room temperature for an hour, the cells was stained with a Alexa Fluor™ 488-conjugated goat anti-rabbit IgG Secondary antibody at 1/500 dilution for 30 minutes.

Background References

1. van den Heuvel L et al. Demonstration of a new pathogenic mutation in human complex I deficiency: a 5-bp duplication in the nuclear gene encoding the 18-kD (AQDQ) subunit. Am J Hum Genet 62:262-268 (1998).
2. Murray J et al. The subunit composition of the human NADH dehydrogenase obtained by rapid one-step immunopurification. J Biol Chem 278:13619-13622 (2003).