

## Anti-MT-ND4 Antibody Picoband®

Catalog Number: A04180-1

### About MT-ND4

NADH-ubiquinone oxidoreductase chain 4 is a protein that in humans is encoded by the mitochondrial gene MT-ND4. MT-ND4 is a subunit of the respiratory chain Complex I that is believed to belong to the minimal assembly of core proteins required to catalyze NADH dehydrogenation and electron transfer to ubiquinone (coenzyme Q10). Initially, NADH binds to Complex I and transfers two electrons to the isoalloxazine ring of the flavin mononucleotide (FMN) prosthetic arm to form FMNH<sub>2</sub>. The electrons are transferred through a series of iron-sulfur (Fe-S) clusters in the prosthetic arm and finally to coenzyme Q10 (CoQ), which is reduced to ubiquinol (CoQH<sub>2</sub>). The flow of electrons changes the redox state of the protein, resulting in a conformational change and pK shift of the ionizable side chain, which pumps four hydrogen ions out of the mitochondrial matrix.

### Overview

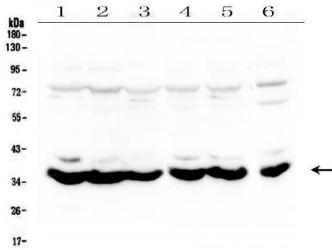
Product Name	Anti-MT-ND4 Antibody Picoband®
Reactive Species	Human
Description	Boster Bio Anti-MT-ND4 Antibody Picoband® catalog # A04180-1. Tested in ELISA, WB applications. This antibody reacts with Human. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na <sub>2</sub> HPO <sub>4</sub> , 0.05mg NaN <sub>3</sub> .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P03905

### Technical Details

Immunogen	E.coli-derived human MT-ND4 recombinant protein (Position: M10-S459).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG

Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml ELISA, 0.1-0.5ug/ml

## Anti-MT-ND4 Antibody Picoband® (A04180-1) Images



Western blot analysis of MT-ND4 using anti-MT-ND4 antibody (A04180-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human Hela whole cell lysates Lane 2: human HepG2 whole cell lysates Lane 3: human THP-1 whole cell lysates Lane 4: human Caco-2 whole cell lysates Lane 5: human U2OS whole cell lysates Lane 6: human A549 whole cell lysates After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MT-ND4 antigen affinity purified polyclonal antibody (Catalog # A04180-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for MT-ND4 at approximately 36KD. The expected band size for MT-ND4 is at 52KD.

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### Anti-MT-ND4 Antibody

For Research Use Only. Not for use in diagnostic procedures.