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Anti-Thioredoxin 2/TXN2 Antibody Picoband™ (monoclonal, 7B5)

Catalog # ABO14948

Specification

Anti-Thioredoxin 2/TXN2 Antibody Picoband™ (monoclonal, 7B5) - Product Information

Application	**WB, IHC, IF, ICC, FC**
Primary Accession	Q99757
Host	**Mouse**
Isotype	**Mouse IgG2b**
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-Thioredoxin 2/TXN2 Antibody Picoband™ (monoclonal, 7B5) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Thioredoxin 2/TXN2 Antibody Picoband™ (monoclonal, 7B5) - Additional Information

Gene ID 25828

Other Names
Thioredoxin, mitochondrial, MTRX, Mt-Trx, Thioredoxin-2, TXN2, TRX2

Calculated MW
14 kDa KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat
 Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat
 Immunocytochemistry/Immunofluorescence, 2 µg/ml, Human
 Flow Cytometry, 1-3 µg/1x10^6 cells, Human

Subcellular Localization
Mitochondrion.

Tissue Specificity
Widely expressed in adult (at protein level) and fetal tissues.

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg NaN₃.

Immunogen
E.coli-derived human Thioredoxin 2/TXN2 recombinant protein (Position: T60-G166).

Purification
Immunogen affinity purified.

Cross Reactivity
No cross-reactivity with other proteins.

Storage

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.

Anti-Thioredoxin 2/TXN2 Antibody Picoband™ (monoclonal, 7B5) - Protein Information

Name TXN2

Synonyms TRX2

Function
Important for the control of mitochondrial reactive oxygen species homeostasis, apoptosis regulation and cell viability. Possesses a dithiol-reducing activity.

Cellular Location
Mitochondrion

Tissue Location
Widely expressed in adult (at protein level) and fetal tissues.

Anti-Thioredoxin 2/TXN2 Antibody Picoband™ (monoclonal, 7B5) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Thioredoxin 2/TXN2 Antibody Picoband™ (monoclonal, 7B5) - Images

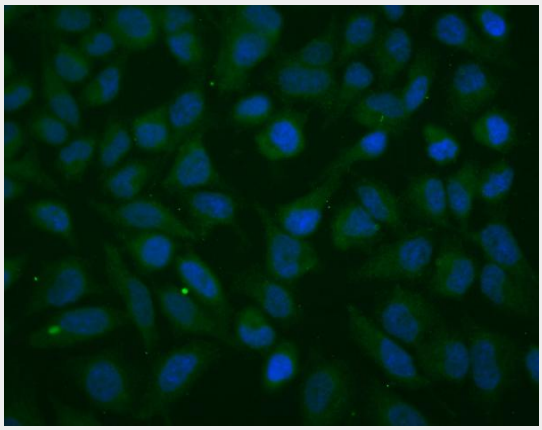

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Figure 2. IF analysis of Thioredoxin 2/TXN2 using anti-Thioredoxin 2/TXN2 antibody (M04586-1).
Thioredoxin 2/TXN2 was detected in immunocytochemical section of Hela cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2 µg/mL mouse anti-Thioredoxin 2/TXN2 Antibody (M04586-1) overnight at 4°C. DyLight®488 Conjugated Goat Anti-mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

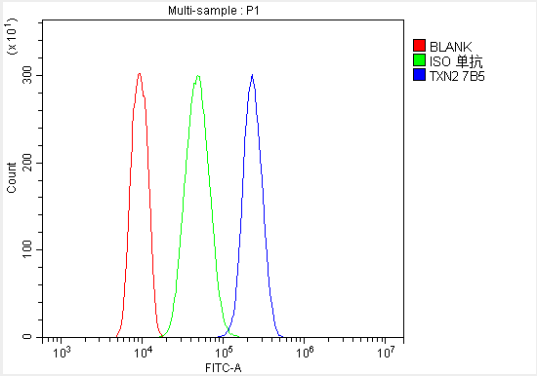

Figure 3. Flow Cytometry analysis of HL-60 cells using anti-Thioredoxin 2/TXN2 antibody (M04586-1).
Overlay histogram showing HL-60 cells stained with M04586-1 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Thioredoxin 2/TXN2 Antibody (M04586-1,1 µg/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

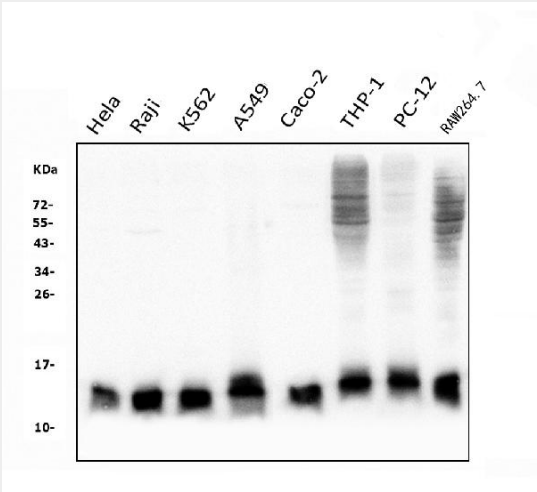

Figure 1. Western blot analysis of Thioredoxin 2/TXN2 using anti-Thioredoxin 2/TXN2 antibody (M04586-1).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates;
Lane 2: human Raji whole cell lysates;
Lane 3: human K562 whole cell lysates;
Lane 4: human A549 whole cell lysates;
Lane 5: human Caco-2 whole cell lysates;

Lane 6: human THP-1 whole cell lysates;
Lane 7: rat PC-12 whole cell lysates;
Lane 8: mouse RAW264.7 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 mouse anti-Thioredoxin 2/TXN2 antigen affinity purified monoclonal antibody (Catalog # M04586-1) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse 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 # EK1001) with Tanon 5200 system. A specific band was detected for CTNNA1 at approximately 14KD. The expected band size for CTNNA1 is at 14KD.

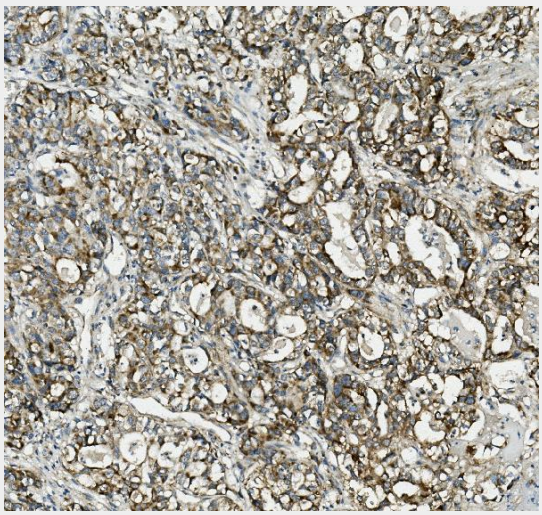

Figure 4. IHC analysis of Thioredoxin 2/TXN2 using anti-Thioredoxin 2/TXN2 antibody (M04586-1). Thioredoxin 2/TXN2 was detected in paraffin-embedded section of human gastric cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Thioredoxin 2/TXN2 Antibody (M04586-1) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

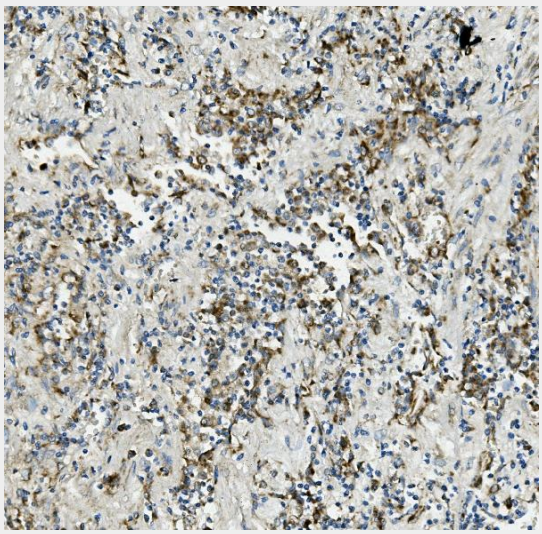

Figure 5. IHC analysis of Thioredoxin 2/TXN2 using anti-Thioredoxin 2/TXN2 antibody (M04586-1).

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Thioredoxin 2/TXN2 was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Thioredoxin 2/TXN2 Antibody (M04586-1) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

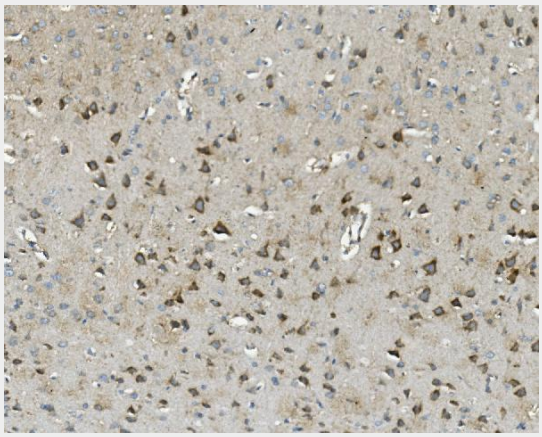

Figure 6. IHC analysis of Thioredoxin 2/TXN2 using anti-Thioredoxin 2/TXN2 antibody (M04586-1). Thioredoxin 2/TXN2 was detected in paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Thioredoxin 2/TXN2 Antibody (M04586-1) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

Anti-Thioredoxin 2/TXN2 Antibody Picoband™ (monoclonal, 7B5) - Background

Thioredoxin, mitochondrial also known as thioredoxin-2 is a protein that in humans is encoded by the TXN2 gene on chromosome 22. It is mapped to 22q12.3. This nuclear gene encodes a mitochondrial member of the thioredoxin family, a group of small multifunctional redox-active proteins. The encoded protein may play important roles in the regulation of the mitochondrial membrane potential and in protection against oxidant-induced apoptosis.