

Anti-Glutathione Peroxidase 4/GPX4 Antibody Picoband® (monoclonal, 6I4E7)

Catalog Number: M02059-1

About GPX4

Glutathione peroxidase 4, also known as GPX4, is an enzyme that in humans is encoded by the GPX4 gene. This gene encodes a member of the glutathione peroxidase protein family. Glutathione peroxidase catalyzes the reduction of hydrogen peroxide, organic hydroperoxide, and lipid peroxides by reduced glutathione and functions in the protection of cells against oxidative damage. Human plasma glutathione peroxidase has been shown to be a selenium-containing enzyme and the UGA codon is translated into a selenocysteine. The encoded protein has been identified as a moonlighting protein based on its ability to serve dual functions as a peroxidase as well as a structural protein in mature spermatozoa. Through alternative splicing and transcription initiation, rat produces proteins that localize to the nucleus, mitochondrion, and cytoplasm. In humans, alternative transcription initiation and the cleavage sites of the mitochondrial and nuclear transit peptides need to be experimentally verified. Alternative splicing results in multiple transcript variants.

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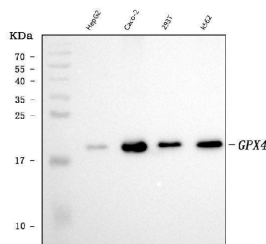
Overview

Product Name	Anti-Glutathione Peroxidase 4/GPX4 Antibody Picoband® (monoclonal, 6I4E7)
Reactive Species	Human
Description	Boster Bio Anti-Glutathione Peroxidase 4/GPX4 Antibody Picoband® (monoclonal, 6I4E7) catalog # M02059-1. Tested in Flow Cytometry, 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	Flow Cytometry, WB
Clonality	Monoclonal 6I4E7
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na ₂ HPO ₄ .
Storage Instructions	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 freezing and thawing.
Host	Mouse
Uniprot ID	P36969

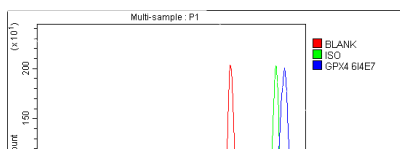
Technical Details

Immunogen	E.coli-derived human Glutathione Peroxidase 4/GPX4 recombinant protein (Position: A30-F197).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Mouse IgG2b
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, 0.25-0.5 ug/ml, Human Flow Cytometry (Fixed), 1-3 ug/1x10 ⁶ cells, Human Note: For flow cytometry (FCM), validated for fixed cells only. Not validated for FACS or surface flow cytometry using live cells.

Anti-Glutathione Peroxidase 4/GPX4 Antibody Picoband® (monoclonal, 6I4E7) (M02059-1) Images



Western blot analysis of Glutathione Peroxidase 4/GPX4 using anti-Glutathione Peroxidase 4/GPX4 antibody (M02059-1). 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 30 ug of sample under reducing conditions. Lane 1: human HepG2 whole cell lysates, Lane 2: human CACO-2 whole cell lysates, Lane 3: human 293T whole cell lysates, Lane 4: human K562 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA 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-Glutathione Peroxidase 4/GPX4 antigen affinity purified monoclonal antibody (Catalog # M02059-1) 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-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 Glutathione Peroxidase 4/GPX4 at approximately 19 kDa. The expected band size for Glutathione Peroxidase 4/GPX4 is at 22 kDa.



Flow Cytometry analysis of HeLa cells using anti-Glutathione Peroxidase 4/GPX4 antibody (M02059-1). Overlay histogram showing HeLa cells stained with M02059-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Glutathione Peroxidase 4/GPX4 Antibody (M02059-1, 1 ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 ug/1x10⁶) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

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