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Anti-CBS Antibody Picoband™ (monoclonal, 5B5D7)

Catalog # ABO16606

Product Information

Application	WB, FC
Primary Accession	P35520
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-CBS Antibody Picoband™ (monoclonal, 5B5D7) . Tested in Flow Cytometry, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	875
Other Names	Cystathionine beta-synthase, 4.2.1.22, Beta-thionase, Serine sulfhydrase, CBS
Calculated MW	60587
Application Details	Western blot, 0.25-0.5 □g/ml, Human, Mouse, Rat Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 5B5D7
Immunogen	E.coli-derived human CBS recombinant protein (Position: K102-E342).
Purification	Immunogen affinity purified.
Storage	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.

Protein Information

Name	CBS
Function	Hydro-lyase catalyzing the first step of the transsulfuration pathway, where the hydroxyl group of L-serine is displaced by L- homocysteine in a

	beta-replacement reaction to form L-cystathionine, the precursor of L-cysteine. This catabolic route allows the elimination of L-methionine and the toxic metabolite L-homocysteine (PubMed:20506325, PubMed:23974653, PubMed:23981774). Also involved in the production of hydrogen sulfide, a gasotransmitter with signaling and cytoprotective effects on neurons (By similarity).
Cellular Location	Cytoplasm. Nucleus
Tissue Location	In the adult strongly expressed in liver and pancreas, some expression in heart and brain, weak expression in lung and kidney. In the fetus, expressed in brain, liver and kidney

Background

CBS, Cystathionine Beta-Synthase, catalyzes the first irreversible step of transsulfuration. The CBS enzyme is a homotetramer of 63-kD subunits and requires pyridoxal phosphate and heme for activity. The CBS gene, which is mapped to chromosome 21q22, contains 23 exons, ranging in size from 42 to 299 bp. The human CBS protein can substitute for the endogenous yeast CBS protein in Saccharomyces cerevisiae. The catalytic domain of the CBS protein is located in the N-terminal 409 amino acids, and a regulatory domain is located in the C-terminal 142 amino acids.A mutation that deletes the C-terminal 145 amino acids of CBS could restore activity of several CBS mutant alleles found in homocystinurics.

Images

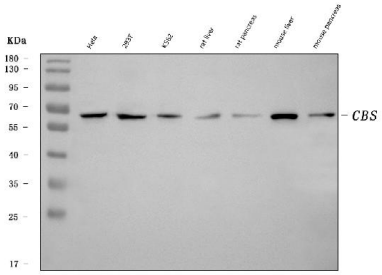
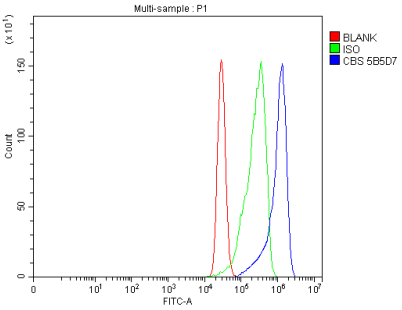


Figure 1. Western blot analysis of CBS using anti-CBS antibody (M00130-3).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates,
Lane 2: human 293T whole cell lysates,
Lane 3: human K562 whole cell lysates,
Lane 4: rat liver tissue lysates,
Lane 5: rat pancreas tissue lysates,
Lane 6: mouse liver tissue lysates,
Lane 7: mouse pancreas tissue 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-CBS antigen affinity purified monoclonal antibody (Catalog # M00130-3) 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 CBS at approximately 61 kDa. The expected band size for CBS is at 61 kDa.

Figure 2. Flow Cytometry analysis of MCF-7 cells using anti-CBS antibody (M00130-3).
Overlay histogram showing MCF-7 cells stained with M00130-3 (Blue line). The cells were blocked with 10%



normal goat serum. And then incubated with mouse anti-CBS Antibody (M00130-3, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.