

Anti-SAE2/UBA2 Antibody Picoband™ (monoclonal, 5B13)

Catalog # ABO14904

Product Information

Application	WB, IHC
Primary Accession	Q9UBT2
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-SAE2/UBA2 Antibody Picoband™ (monoclonal, 5B13) . Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500 µg/ml.

Additional Information

Gene ID	10054
Other Names	SUMO-activating enzyme subunit 2, 2.3.2.-, Anthracycline-associated resistance ARX, Ubiquitin-like 1-activating enzyme E1B, Ubiquitin-like modifier-activating enzyme 2, UBA2, SAE2, UBLE1B
Calculated MW	71224
Application Details	Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat
Subcellular Localization	Nucleus; Cytoplasm
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Clone Names	Clone: 5B13
Immunogen	E. coli-derived human SAE2/UBA2 recombinant protein (Position: E449-K564).
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.

Protein Information

Name	UBA2
Synonyms	SAE2, UBLE1B
Function	The heterodimer acts as an E1 ligase for SUMO1, SUMO2, SUMO3, and probably SUMO4. It mediates ATP-dependent activation of SUMO proteins followed by formation of a thioester bond between a SUMO protein and a conserved active site cysteine residue on UBA2/SAE2.
Cellular Location	Cytoplasm. Nucleus. Note=Shuttles between the cytoplasm and the nucleus, sumoylation is required either for nuclear translocation or nuclear retention

Background

Ubiquitin-like 1-activating enzyme E1B (UBLE1B) also known as SUMO-activating enzyme subunit 2 (SAE2) is an enzyme that in humans is encoded by the UBA2 gene. Posttranslational modification of proteins by the addition of the small protein SUMO (see SUMO1; MIM 601912), or sumoylation, regulates protein structure and intracellular localization. SAE1 (MIM 613294) and UBA2 form a heterodimer that functions as a SUMO-activating enzyme for the sumoylation of proteins

Images

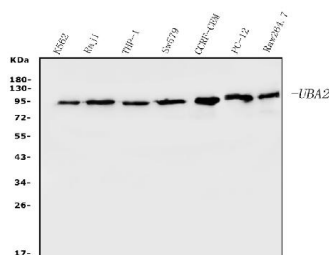


Figure 1. Western blot analysis of SAE2/UBA2 using anti-SAE2/UBA2 antibody (M03816-2).

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 K562 whole cell lysates,

Lane 2: human Raji whole cell lysates,

Lane 3: human THP-1 whole cell lysates,

Lane 4: human SW579 whole cell lysates,

Lane 5: human CCRF-CEM whole cell lysates,

Lane 6: rat PC-12 whole cell lysates,

Lane 7: mouse RAW264.7 whole cell lysates.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes.

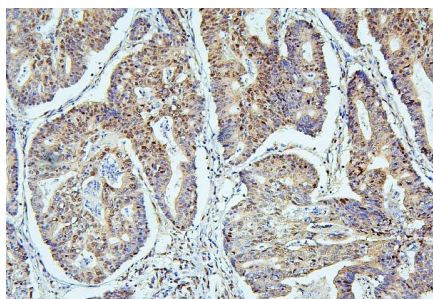
Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse

anti-SAE2/UBA2 antigen affinity purified monoclonal antibody (Catalog # M03816-2) 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 SAE2/UBA2 at approximately 90KD. The expected band size for SAE2/UBA2 is at 90KD.

Figure 2. IHC analysis of SAE2/UBA2 using anti-SAE2/UBA2 antibody (M03816-2).

SAE2/UBA2 was detected in paraffin-embedded section of



human intestinal 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-SAE2/UBA2 Antibody (M03816-2) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

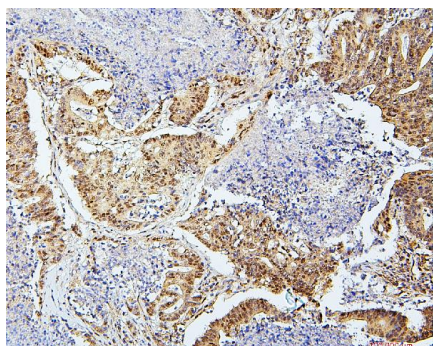


Figure 3. IHC analysis of SAE2/UBA2 using anti-SAE2/UBA2 antibody (M03816-2). SAE2/UBA2 was detected in paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-SAE2/UBA2 Antibody (M03816-2) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

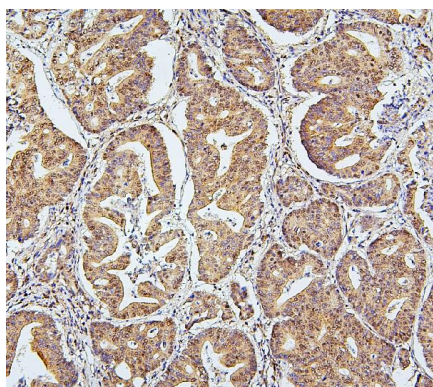


Figure 4. IHC analysis of SAE2/UBA2 using anti-SAE2/UBA2 antibody (M03816-2). SAE2/UBA2 was detected in paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-SAE2/UBA2 Antibody (M03816-2) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

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