abcam

ab59509

Anti-CD82 antibody [TS82b] - BSA and Azide free

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.3 - 7.5 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CD82 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P27701
Carrier free	Yes
Clone number	TS82b
Purification technique	Affinity purification Protein A
Specificity	Recognises the CD82 antigen, a 60 kDa protein.
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CD82

Function

Structural component of specialized membrane microdomains known as tetraspanin-enriched microdomains (TERMs), which act as platforms for receptor clustering and signaling (PubMed:19497983). Participates thereby in diverse biological functions such as cell signal transduction, adhesion, migration and protein trafficking. Acts as a attenuator of EGF signaling, facilitating ligand-induced endocytosis of the receptor and its subsequent desensitization (PubMed:10985391, PubMed:35538033). Mechanistically, modulates ligand-induced ubiquitination and trafficking of EGFR via E3 ligase CBL phosphorylation by PKC (PubMed:23897813). Increases cell-matrix adhesion by regulating the membrane organization of integrin alpha4/ITA4 (PubMed:24623721, PubMed:8757325). Modulates adhesion and suppresses cell migration through other integrins such as the alpha6/ITGA6 and beta1/ITGB1 (PubMed:15557282, PubMed:17560548). Decreases cell-associated plasminogen activation by interfering with the interaction between urokinase-type plasminogen activator/PLAU and its receptor PLAUR (PubMed:15677461). Associates with CD4 or CD8 and delivers costimulatory signals for the TCR/CD3 pathway. Plays a role in TLR9 trafficking to acidified CpG-containing compartments by controlling interaction between TLR9 and VAMP3 and subsequent myddosome assembly (By similarity). Inhibits LPS-induced inflammatory response by preventing binding of LPS to TLR4 on the cell surface (PubMed:36945827). Plays a role in the activation of macrophages into anti-inflammatory phenotypes (By similarity). Independently of Toll-like receptor (TLR) signaling, is recruited to pathogen-containing phagosomes prior to fusion with lysosomes and thereby participates in antigen presentation (By similarity). Also acts to control angiogenesis and switch angiogenic milieu to quiescent state by binding and sequestering VEGFA and PDGFB to inhibit the signaling they trigger via their respective cell surface receptor (PubMed:34530889).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	Up to 12 months
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

This product was changed from ascites to tissue culture supernatant on 19th June 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD82 also known as KAI1 is a member of the tetraspanin family of proteins. It has a molecular mass of approximately 29 to 30 kDa. This protein is widely expressed on the surface of various cell types such as epithelial cells lymphocytes and endothelial cells. It features four transmembrane domains implying a role in organizing membrane microdomains. CD82 is known for its role in promoting cell adhesion and motility through its involvement in protein-protein interactions on the cell surface.
Biological function summary	CD82 plays a significant role in regulating cell signaling and communication during tumor progression and metastasis. It participates in the formation of tetraspanin-enriched microdomains by associating with other tetraspanins and integrins influencing the cellular microenvironment. Additionally CD82 impacts immune cell interactions by modulating activities of T cells and B cells. Despite not being the predominant component in any major protein complex CD82 influences many cellular processes by regulating diverse signaling pathways.
Pathways	CD82 modulates both the PI3K-Akt signaling pathway and the Wnt signaling pathway. These pathways are critical in controlling cellular processes like growth and survival contributing to the metastasis-suppressive effects of CD82. In these contexts CD82 associates with proteins such as integrins and cadherins which facilitate its regulation of signal transduction and cellular dynamics. CD82's role in these pathways shows its importance in controlling cancer cell behavior and immune system interactions.
Associated diseases and disorders	CD82 has been linked to various cancers particularly prostate cancer and melanoma. Its downregulation or loss often correlates with tumor progression and

metastasis indicating its function as a metastasis suppressor. In cancer CD82 interacts with proteins like epidermal growth factor receptor (EGFR) and other integrins affecting disease progression by altering cell adhesion migration and invasion. CD82's expression level serves as a potential biomarker for cancer prognosis and treatment outcomes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

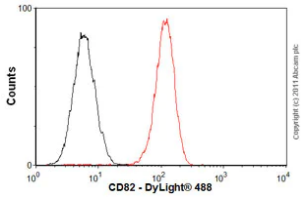
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

2 product images

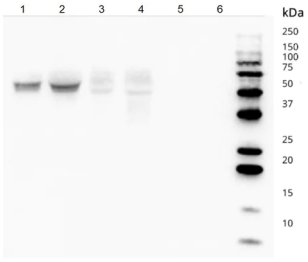


Flow Cytometry - Anti-CD82 antibody [TS82b] - BSA and Azide free (ab59509)

CD82 Flow Cytometry staining using mouse Anti-CD82 antibody

Overlay histogram showing HeLa cells stained with ab59509 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab59509, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was a goat anti-mouse DyLight® 488 (IgG, H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.
Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.

This image was generated using the ascites version of the product.



Western blot - Anti-CD82 antibody [TS82b] - BSA and Azide free (ab59509)

CD82 Western blot staining using mouse Anti-CD82 antibody

Lysis buffer:
- Tris pH7.4, NaCl 150 mM, CaCl2 2H2O 1 mM, MgCl2 1 mM NaN3 0.02%, Triton X100 1%

Gel:
5-15% SDS polyacrylamide.
All lanes:
Western blot - Anti-CD82 antibody [TS82b] - BSA and Azide free (ab59509) at 1 µg/mL

Lane 1:
Raji (Human Burkitt's lymphoma cell line) whole cell lysate at 25 µg

Lane 2:
Raji whole cell lysate at 50 µg

Lane 3:
HEL (Human bone marrow erythroleukemia cell line) whole cell lysate at 25 µg

Lane 4:
HEL whole cell lysate at 50 µg

Lane 5:
YT whole cell lysate at 25 µg

Lane 6:
YT whole cell lysate at 50 µg

Secondary

All lanes:
Anti IgG1-HRP

Predicted band size: 29 kDa

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