abcam

ab33486

FITC Anti-CD13 antibody [R3-63]

Anti-CD13 antibody [R3-63] conjugated to FITC - suitable for flow cytometry, and reacts with mouse samples. Clone [R3-63] is a rat monoclonal antibody cited in 6 publications.

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Key facts

Isotype	IgG2a
Host species	Rat
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Clone number	R3-63
Purification technique	Affinity purification Protein G
Specificity	Recognizes mouse aminopeptidase N (APN), a cell surface protein homologous with human CD13.
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

Reactivity data

Flow Cyt

Expected

Species	Mouse
Dilution info	-
Notes	Use 10ul of the suggested working dilution to label 10^6 cells in 100ul. ab18446 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Target data

See full target information Anpep

Function	Broad specificity aminopeptidase which plays a role in the final digestion of peptides generated from hydrolysis of proteins by gastric and pancreatic proteases. Also involved in the processing of various peptides including peptide hormones, such as angiotensin III and IV, neuropeptides, and chemokines (By similarity). May also be involved the cleavage of peptides bound to major histocompatibility complex class II molecules of antigen presenting cells (PubMed:8691132). May have a role in angiogenesis and promote cholesterol crystallization (By similarity). May have a role in amino acid transport by acting as binding partner of amino acid transporter SLC6A19 and regulating its activity (PubMed:22677001).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

In the mouse, CD13 is a non-covalently linked homodimer of approximately 150kD subunits expressed by a variety of cells including monocytes, macrophages, dendritic cell and veiled cells. Clone R3-63 has been reported to block mouse APN enzyme activity.

Supplementary info

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

Activity summary	CD13 also known as aminopeptidase N (ANPEP) is a transmembrane protein with a molecular weight of approximately 150 kDa. It functions as a zinc-dependent metalloenzyme which cleaves N-terminal amino acids from peptides and proteins. CD13 protein is expressed on various cell types including myeloid cells epithelial cells endothelial cells and fibroblasts. Its presence is significantly observed in the brush border of the small intestinal mucosa and the renal proximal tubule. Researchers can study CD13 using anti-CD13 antibodies and CD13 ELISA kits.
Biological function summary	CD13 regulates peptide-mediated signaling and controls the maturation and catabolism of bioactive peptides. The enzymatic function of CD13 influences processes such as cell proliferation motility and angiogenesis. It does not operate as part of a larger complex but its activity modulates several cellular and systemic functions. CD13's role in these biological processes highlights its importance in modulating local and systemic peptide pools which contributes to its diverse physiological effects.
Pathways	CD13 plays significant roles in the renin-angiotensin system and the regulation of inflammatory responses. In the renin-angiotensin system CD13 modulates the activity of angiotensin influencing blood pressure and fluid balance. Through its enzymatic activity CD13 interacts with proteins such as ACE another critical player in this pathway. In inflammation CD13 regulates the availability of chemotactic peptides affecting leukocyte migration and adhesion. The proteins it works with in inflammatory pathways include cytokines which CD13 indirectly modulates by altering chemokine activity.
Associated diseases and disorders	Aberrant CD13 expression and activity are implicated in cancer and inflammatory diseases. In cancer overexpression of CD13 correlates with tumor growth and metastasis particularly in cancers like renal cell carcinoma and prostate cancer. It can confer an increased malignant phenotype by promoting angiogenesis and immune evasion. In inflammatory disorders dysregulation of CD13 exacerbates diseases such as rheumatoid arthritis through its impact on peptide-mediated signaling and immune cell movement. Its connection with inflammatory cytokines like IL-8 indicates its important role in mediating inflammatory responses.

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.

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