abcam

ab140227

Biotin Anti-CD9 antibody [EM-04]

Anti-CD9 antibody [EM-04] conjugated to Biotin - suitable for flow cytometry, and reacts with mouse samples. Clone [EM-04] is a rat monoclonal antibody cited in 3 publications.

Key facts

Isotype	IgG1
Host species	Rat
Conjugation	Biotin
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CD9 antigen protein. The exact immunogen used to generate this antibody is proprietary information. Database link P40240
Clone number	EM-04
Purification technique	Size-exclusion chromatography
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab140227 was purified by protein A affinity chromatography before conjugation, followed by size exclusion chromatography after conjugation to >95% purity (SDS-PAGE).

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	2-4 µg/mL
Notes	ab18403 - Rat monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information CD9 antigen

Function	Integral membrane protein associated with integrins, which regulates different processes, such as sperm-egg fusion, platelet activation and aggregation, and cell adhesion (PubMed:10634790, PubMed:10634791, PubMed:10700183, PubMed:14715942). Present at the cell surface of oocytes and plays a key role in sperm-egg fusion, possibly by organizing multiprotein complexes and the morphology of the membrane required for the fusion (PubMed:10634790, PubMed:10634791, PubMed:10700183, PubMed:21690351). In myoblasts, associates with CD81 and PTGFRN and inhibits myotube fusion during muscle regeneration (PubMed:23575678). In macrophages, associates with CD9 and beta-1 and beta-2 integrins, and prevents macrophage fusion into multinucleated giant cells specialized in ingesting complement-opsonized large particles. Also prevents the fusion between mononuclear cell progenitors into osteoclasts in charge of bone resorption (PubMed:12796480). Acts as a receptor for PSG17 (PubMed:11805154). Involved in platelet activation and aggregation (PubMed:14715942). Regulates paranodal junction formation (PubMed:14715942). Involved in cell adhesion, cell motility and tumor metastasis (By similarity). Also regulates integrin-dependent migration of macrophages, particularly relevant for inflammatory response in the lung (PubMed:18662991).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Avoid freeze / thaw cycle

Notes

The antibody was conjugated with Biotin-LC-NHS under optimum conditions. ab140227 is free of unconjugated biotin.

Supplementary info

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

Activity summary	CD9 also known as motility-related protein-1 (MRP-1) is a transmembrane glycoprotein with a molecular weight of approximately 24 kDa. This protein is part of the tetraspanin family and shows widespread expression throughout different tissues including hematopoietic and non-hematopoietic cells. CD9 participates in numerous cellular processes by interacting with integrins and other cell surface receptors facilitating the organization of molecular complexes within the cell membrane.
Biological function summary	The CD9 protein is integral to cell adhesion migration and fusion. It forms complexes with other tetraspanins and proteins like EWI-2 and EWI-F contributing to cellular signaling and membrane compartmentalization. Additionally CD9 plays an important role in the formation and secretion of exosomes tiny vesicles emitted by cells that mediate cell-to-cell communication. These exosomes can be analyzed using tools like exosome assays and detection kits that target CD9 proteins.
Pathways	CD9 is involved in the regulation of immune response and cell morphology. It participates in pathways such as the integrin signaling pathway and the phosphatidylinositol 3-kinase (PI3K) signaling pathway. CD9 modulates these interactions by associating with proteins such as integrins and other members of the tetraspanin family influencing cellular movement and proliferation.
Associated diseases and disorders	CD9 has connections to various conditions including cancer and infectious diseases. In cancer CD9 can influence tumor progression and metastasis while its altered expression levels have been associated with different cancer types. CD9 interacts with proteins such as integrins and CD81 in these contexts affecting cellular adhesion and migration mechanisms. In infectious diseases CD9 is involved in viral entry processes as some viruses utilize CD9 and its associated tetraspanins for entry into host cells.

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.

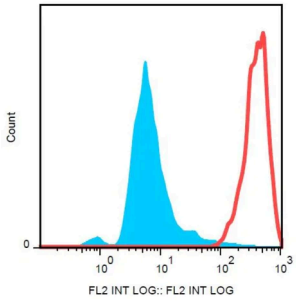
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1 product image



Flow Cytometry - Biotin Anti-CD9 antibody [EM-04] (ab140227)

CD9 Flow Cytometry staining using rat Anti-CD9 antibody

Surface staining of CD9 in murine peritoneal fluid cells with ab140227 4 µg/ml.

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