abcam

ab214086

Anti-STRO1 antibody [STRO-1]

Key facts

Isotype	IgM
Host species	Mouse
Storage buffer	pH: 8 Preservative: 0.097% Sodium azide Constituents: 99% Tris buffered saline, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing STRO1 protein. The exact immunogen used to generate this antibody is proprietary information.
Clone number	STRO-1
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified by precipitation and chromatography.

Reactivity data

ICC

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Expected

Species	Human
Dilution info	-
Notes	ab154448 - Mouse monoclonal IgM, is suitable for use as an isotype control with this antibody.

Target data

See full target information STRO1

Storage

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

Supplementary info

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

Activity summary	STRO1 also known as Stem Cell Antigen STRO-1 acts as a cell surface marker instrumental in identifying mesenchymal stem cells (MSCs) within the bone marrow. The specific mass of STRO1 remains unknown although it is well-recognized for its presence on the surface of MSCs. Cells expressing STRO1 play key roles in the differentiation processes vital to tissue regeneration and repair. STRO1 expression can be found in various tissues such as bone marrow dental pulp and adipose tissue where stem cell proliferation is essential.
Biological function summary	Mesenchymal stem cells marked by STRO1 exhibit the capacity to differentiate into osteoblasts chondrocytes adipocytes and myocytes. STRO1 serves as a functional marker without a known part in a specific molecular complex. Its expression on MSCs aligns with its regulatory role in promoting tissue-specific differentiation. These properties indicate STRO1's involvement in maintaining a regenerative environment necessary for tissue homeostasis and repair.
Pathways	Differentiation initiated by STRO1 expression interacts within bone and cartilage development pathways. In the bone formation pathway it plays a significant role by offering precursor cells like osteoblasts which differentiate from MSCs. Furthermore it associates indirectly with signaling regulated by proteins such as BMPs (Bone Morphogenetic Proteins). In another relevant pathway STRO1-

	expressing cells align with the Wnt signaling pathway a critical regulator of stem cell renewal and differentiation related processes.
Associated diseases and disorders	Abnormalities in the differentiation potential of STRO1-positive cells contribute to the onset of diseases such as osteoporosis and osteoarthritis. Dysregulation in these pathways can impede normal regenerative functions affecting bone density and joint health. STRO1 is associated with the function of proteins like RUNX2 in osteoporosis which is essential for osteoblast differentiation. Another disease osteoarthritis connects through malfunctioning of mesenchymal progenitor cells impacting cartilage repair and involving proteins such as MMPs (Matrix Metalloproteinases).

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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