abcam

ab58841

FITC Anti-M6PR (cation independent) antibody [MEM-238] - Lysosome Membrane Marker

Anti-M6PR (cation independent) antibody [MEM-238] conjugated to FITC - suitable for flow cytometry, intracellular flow cytometry, and reacts with human samples. Clone [MEM-238] is a mouse monoclonal antibody cited in 5 publications.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Virus within Human IGF2R. The exact immunogen used to generate this antibody is proprietary information. Database link P11717
Clone number	MEM-238
Purification technique	Size-exclusion chromatography
Epitope	ab58841 recognizes an epitope between domains 2 and 5 of Mannose 6 Phosphate Receptor (Cation independent) (CD222).
Purification notes	The purified antibody is conjugated with fluorescein isothiocyanate (FITC) under optimum conditions. The conjugate is purified by size-exclusion chromatography.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	8.3 µL for 10^6 Cells
Notes	ab91356 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Primates
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab91356 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Primates
Dilution info	-
Notes	-

Target data

See full target information IGF2R

Function	Mediates the transport of phosphorylated lysosomal enzymes from the Golgi complex and the cell surface to lysosomes (PubMed:18817523, PubMed:2963003). Lysosomal enzymes bearing phosphomannosyl residues bind specifically to mannose-6-phosphate receptors in the Golgi apparatus and the resulting receptor-ligand complex is transported to an acidic prelysosomal compartment where the

	low pH mediates the dissociation of the complex (PubMed:18817523, PubMed:2963003). The receptor is then recycled back to the Golgi for another round of trafficking through its binding to the retromer (PubMed:18817523). This receptor also binds IGF2 (PubMed:18046459). Acts as a positive regulator of T-cell coactivation by binding DPP4 (PubMed:10900005).

Storage

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

Notes

The purified antibody is conjugated with Fluorescein isothiocyanate (FITC) under optimum conditions. The reagent is free of unconjugated FITC and adjusted for direct use.

Supplementary info

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

Activity summary	The cation-independent mannose 6-phosphate receptor (M6PR) is an important player in cellular transport mechanisms. Also known as the insulin-like growth factor 2 receptor (IGF2R) this protein weighs approximately 300 kDa. M6PR is present on the membrane of lysosomes and works as a lysosome membrane marker. It functions as a sorting receptor in the Golgi apparatus and endosomes facilitating the transport of lysosomal enzymes from the Golgi to lysosomes and back for function and degradation.
Biological function summary	The M6PR enables essential cellular processes by mediating the trafficking of enzymes important to lysosomal function. This receptor takes part in recognizing and binding proteins tagged with mannose 6-phosphate signals allowing their transport to lysosomes. IGF2R engages in forming transient complexes with these enzymes within the cellular trafficking circuitry therefore ensuring the proper delivery of enzyme cargo to its target destination.
Pathways	M6PR fits importantly within lysosomal enzyme transport and the insulin-like growth factor (IGF) pathway. It partially regulates the homeostasis of IGF2 by facilitating its degradation modulating cell proliferation growth and development. Steric interactions with IGF2 and other proteins like mannose receptor homologs and IGF-binding proteins outline its influence within these pathways highlighting its multifunctionality.
Associated diseases and disorders	M6PR connects to certain cancers and lysosomal storage disorders. Dysfunctional pathway interactions or mutations within IGF2R often relate with types of cancer

such as breast and liver cancers due to its influence on IGF2 regulation and cell proliferation. Additionally it associates with lysosomal storage diseases as lysosome-related pathologies emerge from impaired enzyme transport reflecting the M6PR's intricate role in cellular homeostasis.

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

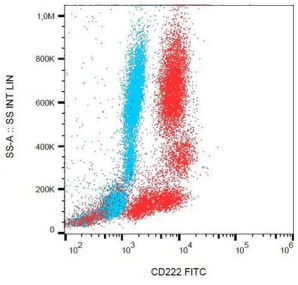
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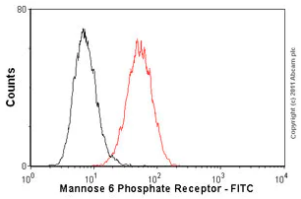
2 product images



Flow Cytometry - FITC Anti-M6PR (cation independent) antibody [MEM-238] - Lysosome Membrane Marker (ab58841)

M6PR (cation independent) Flow Cytometry staining using mouse Anti-M6PR (cation independent) antibody

Flow cytometry surface staining pattern of human peripheral whole blood stained using anti-human CD222 (MEM-238) FITC antibody (ab58841) (red, concentration in sample 3 µg/ml) and mouse IgG1 isotype control (MOPC-21) FITC antibody (blue, concentration in sample 3 µg/ml).



Flow Cytometry (Intracellular) - FITC Anti-M6PR (cation independent) antibody [MEM-238] - Lysosome Membrane Marker (ab58841)

M6PR (cation independent) Flow Cytometry (Intracellular) staining using mouse Anti-M6PR (cation independent) antibody

Overlay histogram showing HeLa cells stained with ab58841 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab58841, 1µg/1x10^6 cells) for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 (1µg/1x10^6 cells). Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde/permeabilized in 0.1% PBS-Tween used under the same conditions.

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