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beta-Actin Antibody [10B7] (biotin)

Catalog # ASC12040

Product Information

Application	WB, E
Primary Accession	P60709
Other Accession	12803203, AAH02409, 60
Reactivity	Human, Mouse, Rat, Rabbit, Zebrafish, Chicken, Drosophila
Host	Mouse
Clonality	Monoclonal
Isotype	IgG
Calculated MW	41737
Application Notes	beta-Actin antibody can be used for detection of Beta-Actin by Western blot at 0.5 - 1 □/ml.

Additional Information

Gene ID	60
Other Names	Biotin-Actin, Beta-Actin, Actin
Precautions	beta-Actin Antibody [10B7] (biotin) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACTB
Function	Actin is a highly conserved protein that polymerizes to produce filaments that form cross-linked networks in the cytoplasm of cells (PubMed:25255767, PubMed:29581253). Actin exists in both monomeric (G-actin) and polymeric (F-actin) forms, both forms playing key functions, such as cell motility and contraction (PubMed:29581253). In addition to their role in the cytoplasmic cytoskeleton, G- and F- actin also localize in the nucleus, and regulate gene transcription and motility and repair of damaged DNA (PubMed:29925947). Plays a role in the assembly of the gamma-tubulin ring complex (gTuRC), which regulates the minus-end nucleation of alpha-beta tubulin heterodimers that grow into microtubule protafilaments (PubMed:39321809, PubMed:38609661). Part of the ACTR1A/ACTB filament around which the dynactin complex is built (By similarity). The dynactin multiprotein complex activates the molecular motor dynein for ultra-processive transport along microtubules (By similarity).
Cellular Location	Cytoplasm, cytoskeleton. Nucleus Note=Localized in cytoplasmic mRNP granules containing untranslated mRNAs.

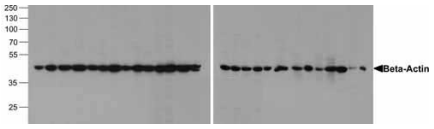
Background

Actins are highly conserved proteins that are involved in cell motility, structure and integrity, processes that are crucial for tissue development and the development of organism. The actin cytoskeleton is one of the principal drivers of cell motility and is capable of responding to complex signaling cascades. Recent evidence suggests that it may play key roles in regulating apoptosis and aging. Beta actin is one of six different actin isoforms which have been identified. Like GAPDH, beta-Actin is constitutively expressed at high levels in almost all tissues and cell lines making it ideal for use as a loading control marker in immunoblots.

References

Lambrechts A, Van Troys, M and Ampe C. The actin cytoskeleton in normal and pathological cell motility. Int. J. Biochem. Cell Biol. 2004; 36:1890-909.;Gourlay CW and Ayscough KR. The actin cytoskeleton: a key regulator of apoptosis and ageing. Nat. Rev. 2005; 6:583-9.;;

Images



Western blot analysis of Beta-Actin in 293, A431, A549, Daudi, HeLa, HepG2, Jurkat, K562, MOLT, 3T3, Raji, Ramos, THP-1, U937, human brain, mouse brain, rat brain, rabbit brain, mouse lung, rat lung, rat liver, rabbit liver, rabbit spleen, chicken liver, chicken small intestine, zebrafish, and drosophila lysate with beta-Actin antibody at 1 µg/mL.