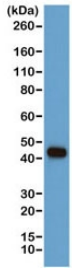
Recombinant Beta Actin Antibody (Loading Control) [clone RM112] (R20197)

Catalog No.	Formulation	Size
R20197-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

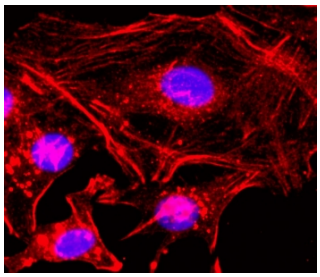
Recombinant RABBIT MONOCLONAL

Bulk quote request

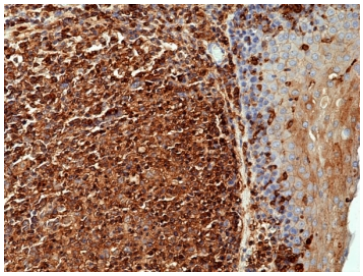
Availability	1-3 business days
Species Reactivity	All Species
Format	Purified
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM112
Purity	Protein A purified from animal origin-free supernatant
UniProt	P60709
Gene ID	60
Applications	Western Blot : 1:1000 Immunoprecipitation : 1:200 Chromatin IP (ChIP) : 1:200 Immunocytochemistry : 1:200 Immunohistochemistry : 1:200-1:1000
Limitations	This recombinant Beta Actin antibody is available for research use only.



Western blot of human A431 cells using the recombinant Beta Actin antibody at a 1:1000. Predicted molecular weight ~42 kDa.



ICC staining of human HeLa cells using the recombinant Beta Actin antibody at 1:200 (red) and DAPI to stain the nuclei (blue).



IHC staining of FFPE human tonsil with recombinant Beta Actin antibody at 1:1000 (clone RM112). HIER: boil tissue sections in pH 6 citrate buffer or pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.

Description

The Recombinant Beta Actin antibody is a recombinant reagent that specifically recognizes beta actin, one of the most abundant and highly conserved cytoskeletal proteins in eukaryotic cells. Beta actin is encoded by the ACTB gene and plays a central role in maintaining cell shape, enabling motility, and supporting intracellular transport. It polymerizes into microfilaments that form part of the actin cytoskeleton, a dynamic network that coordinates with microtubules and intermediate filaments to regulate essential cellular processes. Because of its stable and constitutive expression in nearly all cell types, beta actin is widely used as a loading control in western blotting, making the Recombinant Beta Actin antibody a critical tool in molecular biology and cell biology research.

Structurally, actin exists in two forms: monomeric globular actin (G-actin) and filamentous actin (F-actin). The polymerization of G-actin into F-actin is tightly regulated by actin-binding proteins and signaling pathways, allowing rapid reorganization of the cytoskeleton during cell migration, endocytosis, or cytokinesis. Beta actin differs slightly from other actin isoforms, such as gamma actin, in amino acid composition and tissue distribution, yet its conservation across species underscores its fundamental role in cell biology. The Recombinant Beta Actin antibody targets epitopes within this protein to ensure reliable detection in multiple applications.

The Recombinant Beta Actin antibody is used extensively in western blotting, where it serves as a standard loading control for protein quantification. Its stable expression across most cell types allows normalization of protein levels, ensuring that differences in signal intensity reflect experimental variables rather than unequal sample loading. In immunofluorescence, the antibody labels the filamentous actin cytoskeleton, enabling visualization of structural organization and cytoskeletal remodeling. In immunohistochemistry, the Recombinant Beta Actin antibody highlights actin-rich regions in tissues, providing insight into developmental processes and pathological changes. Recombinant production ensures consistency between lots, eliminating the variability that may occur with hybridoma-derived antibodies.

This antibody is particularly valuable in studies of cancer, neurobiology, and infectious disease, where actin dynamics are frequently altered. It also plays an important role in drug discovery, as many therapeutic agents influence cytoskeletal stability and function. By serving as a dependable loading control, the Recombinant Beta Actin antibody improves the accuracy and reproducibility of quantitative analyses. Synonym phrases such as recombinant ACTB antibody and recombinant beta cytoskeletal actin antibody broaden product visibility for researchers searching under alternate terminology.

By providing validated and reproducible detection, the Recombinant Beta Actin antibody supports high-quality data generation across diverse experimental platforms. NSJ Bioreagents ensures strict quality control, giving scientists

confidence in its application as both a cytoskeletal marker and a reliable loading control. With this reagent, researchers can study actin biology while ensuring accuracy in protein quantification assays.

This recombinant Beta Actin antibody reacts to b-Actin (ACTB/Actin, cytoplasmic 1). No cross reactivity with other isoforms of Actin.

Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant Beta Actin antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A peptide corresponding to the N-terminus of b-Actin was used as the immunogen for this recombinant Beta Actin antibody.

Storage

Store the recombinant Beta Actin antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).