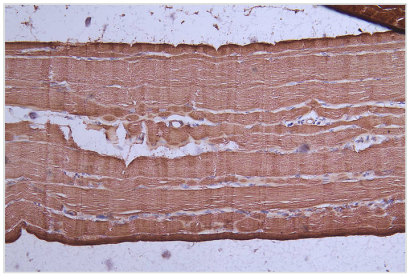
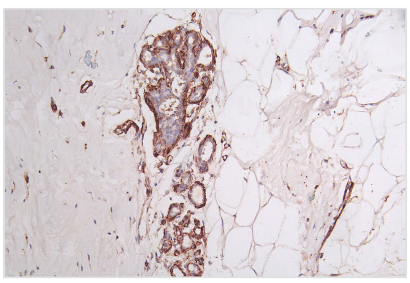
ACTA1 Recombinant Monoclonal Antibody

Product Code	CSB-RA289956A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P68133
Immunogen	A synthesized peptide derived from Human ACTA1
Species Reactivity	Human
Tested Applications	ELISA, IHC, FC; Recommended dilution: IHC:1:50-1:200, FC:1:50-1:200
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Isotype/Loading Controls;Cancer;Tags & Cell Markers;Signal transduction
Gene Names	ACTA1
Clone No.	4C1

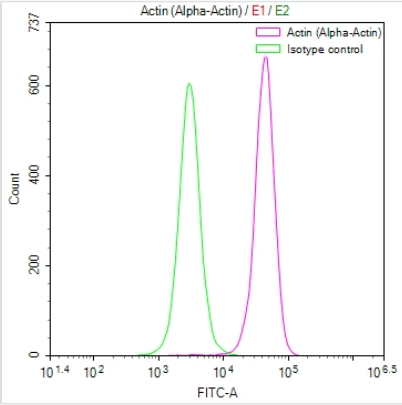
Image



IHC image of CSB-RA1:509956A0HU diluted at 1:50 and staining in paraffin-embedded human skeletal muscle tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.72% DAB.



IHC image of CSB-RA1:509956A0HU diluted at 1:50 and staining in paraffin-embedded human breast cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.72% DAB.



Overlay Peak curve showing A549 cells stained with CSB-RA289956A0HU (red line) at 1:50. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1μg/1*10^6cells) for 45min at 4?. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG(H+L) at 1:200 dilution for 35min at 4?.Control antibody (green line) was rabbit IgG (1μg/1*10^6cells) used under the same conditions. Acquisition of >10,000 events was performed.

Description

In order to develop a recombinant monoclonal antibody against ACTA1, CUSABIO initiated the process by immunizing a rabbit with a synthesized peptide derived from human ACTA1. Subsequently, B cells were isolated from the immunized rabbit, and RNA was extracted from these B cells. The extracted RNA was reverse-transcribed into cDNA, serving as a template for extending ACTA1 antibody genes using degenerate primers. These extended ACTA1 antibody genes were integrated into a plasmid vector and introduced into host cells for expression. The ACTA1 recombinant monoclonal antibody was then purified from the cell culture supernatant via affinity chromatography and assessed for its suitability in ELISA, IHC, and FC applications. It shows specific recognition of the human ACTA1 protein.

ACTA1 is a major component of the thin filaments in skeletal muscle fibers, where it interacts with myosin to generate the contractile force required for muscle contraction. Mutations in the ACTA1 gene can lead to various muscle disorders such as congenital myopathies.