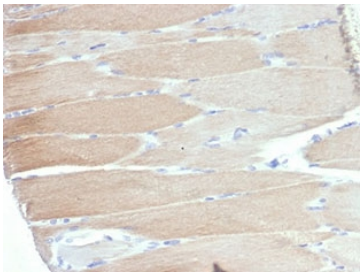
# Recombinant ACTN2 Antibody / Alpha Actinin 2 / Sarcomeric Alpha Actinin [clone ACTN2/7039R] (V9421)

| Catalog No. | Formulation | Size |
|---|---|---|
| V9421-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 100 ug |
| V9421-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 20 ug |
| V9421SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |

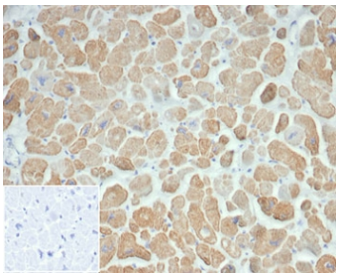
Recombinant RABBIT MONOCLONAL

**Bulk quote request**

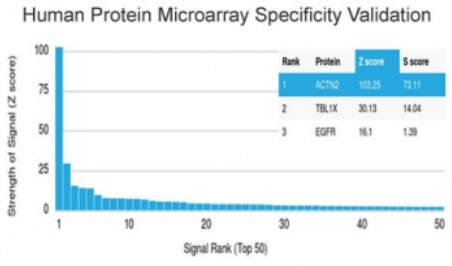
| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Rabbit |
| **Clonality** | Recombinant Rabbit Monoclonal |
| **Isotype** | Rabbit IgG1, kappa |
| **Clone Name** | ACTN2/7039R |
| **Purity** | Protein A/G affinity |
| **UniProt** | P35609 |
| **Localization** | Cytoplasmic |
| **Applications** | Immunohistochemistry (FFPE) : 1-2ug/ml |
| **Limitations** | This recombinant ACTN2 antibody is available for research use only. |



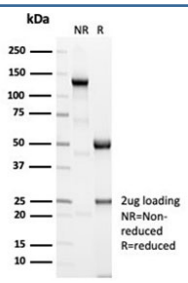
IHC staining of FFPE human skeletal muscle tissue with recombinant recombinant ACTN2 antibody (clone ACTN2/7039R). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE human heart tissue with recombinant recombinant ACTN2 antibody (clone ACTN2/7039R). Negative control inset: PBS instead of primary antibody to control for secondary binding. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.




Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using recombinant ACTN2 antibody (clone ACTN2/7039R). These results demonstrate the foremost specificity of the ACTN2/7039R mAb. Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If the targets on the HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.




SDS-PAGE analysis of purified, BSA-free recombinant ACTN2 antibody (clone ACTN2/7039R) as confirmation of integrity and purity.

## Description

Recombinant ACTN2 antibody detects alpha-actinin-2, a cytoskeletal protein encoded by the ACTN2 gene. Alpha-actinin-2 is a major component of the Z-disc in striated muscle, where it anchors actin filaments and coordinates sarcomere organization. Because of its essential role in muscle integrity and its association with cardiomyopathies, Recombinant ACTN2 antibody is indispensable in muscle biology, cardiovascular research, and cytoskeletal studies.

Alpha-actinin-2 is one of four alpha-actinin isoforms, with ACTN2 being muscle-specific. It crosslinks actin filaments and binds structural and signaling proteins at the Z-disc, maintaining sarcomere alignment and transmitting contractile force. Mutations in ACTN2 are associated with hypertrophic and dilated cardiomyopathies, highlighting its importance in cardiovascular pathology. Beyond its structural role, ACTN2 participates in signaling pathways regulating muscle adaptation and remodeling.

The Recombinant ACTN2 antibody clone ACTN2/7039R provides reliable and specific recognition. Recombinant production ensures batch-to-batch consistency, which is critical for reproducible results. Clone ACTN2/7039R has been referenced in peer-reviewed studies investigating sarcomere biology, muscle development, and cardiomyopathy. Its applications include immunohistochemistry, Western blotting, and confocal microscopy.

Research using clone ACTN2/7039R has clarified how ACTN2 mutations disrupt sarcomere assembly and contribute to muscle disease. In cardiovascular research, this antibody has been used to evaluate ACTN2 expression in normal and failing hearts, supporting mechanistic studies of muscle remodeling. Beyond pathology, it has contributed to developmental research examining muscle formation and maintenance of contractile architecture.

NSJ Bioreagents provides this Recombinant ACTN2 antibody to support cardiovascular, muscle biology, and cytoskeletal research. Alternate names include alpha-actinin-2 antibody, sarcomeric actin-binding protein antibody, Z-disc structural

protein antibody, hypertrophic cardiomyopathy protein antibody, and ACTN2 gene product antibody.

## Application Notes

Optimal dilution of the recombinant ACTN2 antibody should be determined by the researcher.

## Immunogen

A portion of amino acids 557-692 from the human protein was used as the immunogen for the recombinant ACTN2 antibody.

## Storage

Aliquot the recombinant ACTN2 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.