

Monoclonal Antibodies Specific for the Cytoplasmic Gamma-actin Isoform



INVENTORS • James Ervasti, Laurin Hanft

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Assigned to WARF as biological material.

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing five monoclonal antibodies to cytoplasmic gamma-actin.

OVERVIEW

The six mammalian actin genes encode a highly conserved family of cytoskeletal protein isoforms important in cell structure, mechanical stability, and motility. Actin isoforms exhibit tissue-specific expression and distinct subcellular distributions, suggesting that each isoform may serve a different function. Although commercially available monoclonal antibodies exist for most isoforms of actin, the only available antibodies specific for the gamma-cytoplasmic isoform were extremely variable polyclonal antibodies.

THE INVENTION

UW-Madison researchers have developed five monoclonal antibodies to cytoplasmic gamma-actin. They purified full-length cytoplasmic gamma-actin from bovine brain and then co-immunized mice with the purified gamma-actin and a synthetic peptide containing 15 amino acids from a unique sequence in the N-terminus of gamma-actin. Western blots of purified actin isoforms and tissue extracts confirmed that the resulting antibodies were specific to gamma-actin, while images of muscle biopsies from a dystrophic mouse model validated the antibodies for use in immunofluorescence microscopy and as potential diagnostics in muscular dystrophy.

APPLICATIONS

- Potentially useful in the diagnosis of muscular dystrophy

KEY BENEFITS

- Provides—for the first time—monoclonal antibodies to the gamma-cytoplasmic isoform of actin
- Effective research tools

THE WARF ADVANTAGE

Since its founding in 1925 as the patenting and licensing organization for the University of Wisconsin-Madison, WARF has been working with business and industry to transform university research into products that benefit society. WARF intellectual property managers and licensing staff members are leaders in the field of university-based technology transfer. They are familiar with the intricacies of patenting, have worked with researchers in relevant disciplines, understand industries and markets, and have negotiated innovative licensing strategies to meet the individual needs of business clients.



ADDITIONAL INFORMATION

Tech Fields

Research Tools - Antibodies

CONTACT INFORMATION

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854.

