Cleveland Clinic Innovations

PRODUCT
Monoclonal and polyclonal antibodies to detect phosphorylated and unphosphorylated Filamin C

INDICATIONS
Cardiomyopathies, Sudden Cardiac Death, and Glioblastoma.

VALUE PROPOSITION
- Highly sensitive and specific binding to Filamin C (FLNC)
- No cross-reactivity with other Filamin isoforms

DEVELOPMENT STAGE
Research tools available for licensing.

PUBLICATIONS
Manuscript in preparation

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Filamin C Antibodies as Research Tools

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OPPORTUNITY

Filamin C (FLNC) an actin-binding protein encoded by the Filamin C gene (Q14315), has emerged as a key player in the pathogenesis of diverse cardiomyopathies. Recent research has unveiled its association with various disease states, extending beyond cardiomyopathies to include conditions such as sudden cardiac death (SCD) and glioblastoma. The complexity of FLNC involvement in these health issues underscores the need for a comprehensive tool to detect and study its expression. Currently, a significant gap exists in the field for the availability of a commercially viable antibody specifically tailored for the sensitive detection of FLNC. The challenge lies in developing an antibody that not only exhibits a high degree of sensitivity but also avoids cross-reactivity with other Filamin analogs due to similarities in sequences, particularly Filamin A (FLNA) and Filamin B (FLNB). Both FLNA and FLNB are ubiquitously expressed with FLNC, complicating the accurate identification of FLNC. Addressing this gap presents a unique opportunity for the development of a specific antibody that can precisely and sensitively detect FLNC and post-translationally modified forms of FLNC that include phosphorylated forms of FLNC.

SOLUTION

Researchers at Cleveland Clinic have developed antibodies that can detect phosphorylated and unphosphorylated forms of FLNC. The current set of monoclonal and polyclonal antibodies allow researchers to detect FLNC with a high degree of sensitivity (up to 10x more sensitive than comparable antibodies) without cross-contamination with ubiquitously expressed FLN analogs A/B. This highly specific and highly sensitive monoclonal and polyclonal antibody can facilitate the effective probing of FLNC and enables further research into the filamin family of proteins in pre-clinical studies.

Filamin C antibodies available for licensing:

Antibody Type	Monoclonal	Polyclonal	Polyclonal
Clone Name	5C2-2 (Hybridoma)	R-87	R-135
Host	Mouse	Rabbit	Rabbit
Target	Unphosphorylated Filamin C	Unphosphorylated Filamin C	Phosphorylated Filamin C
Applications	WB, IHC, IF	WB, IHC, IF	WB, IHC, IF
Species Reactivity	Human, Mouse	Human, Mouse	Human, Mouse

WB, Western Blot; IHC, Immunohistochemistry; IF, Immunofluorescence

Additional data and representative images are available upon request.