

ANKYRINS AND ORGANIZATION OF MEMBRANE DOMAINS IN MUSCLE

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Ankyrins, the peripheral proteins that link integral proteins to spectrin, are involved in the selective accumulation of ion channels and cell adhesion molecules to the appropriate membrane domains. Expression of at least three genes, *Ank1*, *Ank2*, and *Ank3*, as well as tissue-specific alternative splicing and differential subcellular localization of their products give rise to multiple ankyrin isoforms with related but distinct functions. In the mammalian skeletal muscle fiber ankyrins are present in the costameres, the postsynaptic membrane, the triads and the sarcoplasmic reticulum (SR). Mutant mice lacking discrete isoforms of ankyrin displayed a congenital myopathy and intracellular missorting of Ca²⁺ homeostasis proteins [1], suggesting that ankyrins are essential to the assembly and functional organization of membrane domains in muscle fibers. Molecular identification of the muscular isoforms is a prerequisite for the understanding of the role of ankyrins in skeletal muscle. We previously showed that ankyrins_G, the *Ank3* gene products, are expressed in muscle and localize to the postsynaptic membrane and the SR [2]. Here we discuss the molecular cloning, expression and subcellular targeting of Ank_{G107}, a novel alternatively-spliced muscle-specific ankyrin_G polypeptide that localizes to the sarcolemma of transfected myotubes in culture. (Supported by the CNRS, Universités Paris 6/7 and AFM).

REFERENCES

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