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The sarcoglycans in prostatic glandular epithelium: an immunohistochemical study

Giuseppina Rizzo, Giovanna Vermiglio, Michele Bonaiuto, Giampiero Speranza, Giuseppe Ielitro, Giuseppe Santoro, Alba Arco

Department of Biomorphology and Biotechnologies, University of Messina, Italy

The sarcoglycans complex is part of the dystrophin-glycoprotein complex (DGC) that links extracellular ligands such as laminins and perlecan to the subcellular cytoskeleton through the α-dystroglycan- β-dystroglycan-dystrophin axis. It consists of six glycosylated transmenbrane proteins (α, β, δ, γ, ε, ζ). These proteins, primarily expressed in skeletal muscle fibers, are present in cardiac and smooth muscle fibers too [1]. Our previous studies, carried out on human biopsies obtained from airway, gastrointestinal and urinary tract, demonstrated the presence of α-β-δ-γ-ε-sarcoglycan in smooth muscle tissue.

Our further research have documented the presence of sarcoglycans in the epithelium of airwary, gastrointestinal and urothelial tract, and also in human kidney biopsies. In this research we aimed to verify whether the sarcoglycans are present also in prostatic glandular epithelium. Then, we carried out immunofluorescence reaction using all known sarcoglycans. Our results showed a constant presence of all tested sarcoglycans, previously observed in other tissues. This behaviour of sarcoglycans support the hypothesis that sarcoglycans are not muscle-specific. In our opinion, another intriguing hypothesis is the presence of a DGC-like, as that observed in cerebral tissue [2], also in other epithelial districts, and in particular in prostatic glandular epithelium, mediating signalling between cell and extracellular matrix.

References

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Key words

Sarcoglycans, prostatic epithelium, signalling