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Format: Abstract

Identification of Skeletal Muscle Satellite Cells by Immunofluorescence with Pax7 and Laminin Antibodies.

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Abstract

Immunofluorescence is an effective method that helps to identify different cell types on tissue sections. In order to study the desired cell population, antibodies for specific cell markers are applied on tissue sections. In adult skeletal muscle, satellite cells (SCs) are stem cells that contribute to muscle repair and regeneration. Therefore, it is important to visualize and trace the satellite cell population under different physiological conditions. In resting skeletal muscle, SCs reside between the basal lamina and myofiber plasma membrane. A commonly used marker for identifying SCs on the myofibers or in cell culture is the paired box protein Pax7. In this article, an optimized Pax7 immunofluorescence protocol on skeletal muscle sections is presented that minimizes non-specific staining and background. Another antibody that recognizes a protein (laminin) of the basal lamina was also added to help identify SCs. Similar protocols can also be used to perform double or triple labeling with Pax7 and antibodies for additional proteins of interest.

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