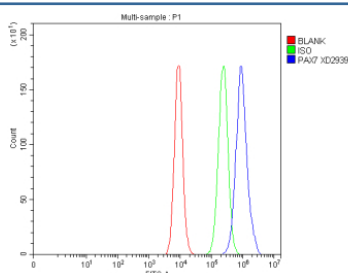


PAX7 Antibody / Paired box protein 7 (FY12505)

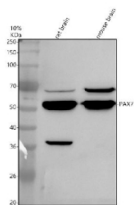
Catalog No.	Formulation	Size
FY12505	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	P23759
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This PAX7 antibody is available for research use only.



Flow Cytometry analysis of CACO-2 cells using anti-PAX7 antibody. Overlay histogram showing CACO-2 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-PAX7 antibody (1 ug/million cells) for 30 min at 20°C. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of PAX7 using anti-PAX7 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-PAX7 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. PAX7 (~55 kDa predicted) was detected as a major band at the expected molecular weight and a second, slower-migrating band at ~65 kDa, consistent with phosphorylation-dependent modification of PAX7 described in previous studies.

Description

PAX7 antibody detects Paired box protein 7, a transcription factor critical for myogenesis, neural crest formation, and satellite cell maintenance. PAX7 belongs to the paired box family of transcriptional regulators that control early developmental programs through DNA binding and transcriptional activation. The PAX7 antibody is widely used in developmental and muscle biology to study stem cell regulation and tissue regeneration.

PAX7 is encoded by the PAX7 gene located on human chromosome 1p36.13. The protein contains a paired DNA-binding domain, a homeodomain, and a C-terminal transactivation domain. During embryonic development, PAX7 is expressed in neural crest cells and the myogenic progenitor population of the somites. In adults, it marks quiescent muscle satellite cells responsible for postnatal muscle repair and regeneration.

The PAX7 antibody identifies a 55 kilodalton nuclear protein by western blot and demonstrates strong nuclear staining in satellite cells and developing muscle fibers. Loss of PAX7 disrupts myogenic lineage specification, resulting in impaired muscle growth. Functionally, PAX7 activates myogenic regulatory factors such as MYOD and MYF5 and promotes self-renewal of satellite cells through repression of differentiation pathways.

Beyond muscle tissue, PAX7 contributes to neurogenesis, pituitary development, and craniofacial patterning. Dysregulation of PAX7 is linked to rhabdomyosarcoma, where gene fusions with FOXO1 create oncogenic transcriptional drivers. NSJ Bioreagents provides a validated PAX7 antibody, enabling precise detection of muscle progenitors and developmental regulators.

Application Notes

Optimal dilution of the PAX7 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human PAX7 was used as the immunogen for the PAX7 antibody.

Storage

After reconstitution, the PAX7 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

