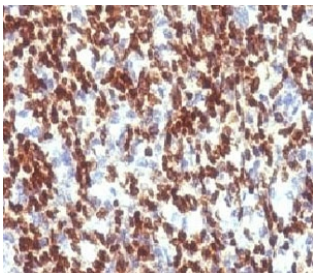
# PAX7 Antibody / Rhabdomyosarcoma Marker Antibody [clone PBPX7] (V7047)

| Catalog No. | Formulation | Size |
|---|---|---|
| V7047-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 100 ug |
| V7047-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 20 ug |
| V7047SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |
| V7047IHC-7ML | Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only* | 7 ml |

## Bulk quote request

| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Mouse |
| **Clonality** | Monoclonal (mouse origin) |
| **Isotype** | Mouse IgG1, kappa |
| **Clone Name** | PBPX7 |
| **Purity** | Protein G affinity chromatography |
| **UniProt** | P23759 |
| **Localization** | Nuclear |
| **Applications** | Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT<br>Prediluted IHC only format: incubate for 30 min at RT (1) |
| **Limitations** | This PAX7 Antibody / Rhabdomyosarcoma Marker Antibody is available for research use only. |



PAX7 Antibody Human Rhabdomyosarcoma IHC. IHC staining of FFPE human rhabdomyosarcoma tissue using PAX7 Antibody, clone PBPX7. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA (pH 9.0) for 10-20 minutes, followed by cooling at room temperature for 20 minutes. Strong nuclear PAX7 staining is observed in tumor cells, consistent with its function as a myogenic transcription factor. This PAX7 Antibody, also called a Rhabdomyosarcoma Marker Antibody, demonstrates PAX7 expression in human rhabdomyosarcoma tissue and supports studies of myogenic tumor biology and skeletal muscle lineage.

## Description

PAX7 Antibody / Rhabdomyosarcoma Marker Antibody clone PBPX7 recognizes PAX7, a paired box transcription factor involved in skeletal muscle development, myogenic progenitor biology and regulation of developmental gene expression. PAX7 contains conserved paired and homeobox DNA-binding domains and plays an important role in establishing and maintaining skeletal muscle progenitor populations. In adult skeletal muscle, the protein is strongly associated with satellite cells, while its expression in neoplastic tissues has made PAX7 relevant to research on tumors exhibiting myogenic differentiation, particularly rhabdomyosarcoma.

Rhabdomyosarcoma is a malignant tumor characterized by features of skeletal muscle lineage and encompasses biologically distinct molecular subtypes. PAX family transcription factors have an especially important relationship with rhabdomyosarcoma biology. Chromosomal rearrangements involving PAX3 or PAX7 and FOXO1 occur in subsets of fusion-positive rhabdomyosarcoma, producing abnormal transcription factors that alter developmental and myogenic regulatory programs. A PAX7 Antibody can therefore be useful in research examining PAX7 expression, skeletal muscle lineage and developmental transcription factor biology in rhabdomyosarcoma and related experimental models.

PAX7 also has a central physiological role in muscle satellite cells and myogenic progenitors. Satellite cells normally reside adjacent to mature skeletal muscle fibers and provide a reservoir of progenitors capable of responding to injury and regenerative signals. PAX7 contributes to maintenance of these cells and participates in transcriptional networks that regulate their activation, proliferation, self-renewal and differentiation. The relationship between normal PAX7-dependent myogenic programs and their alteration in malignancy provides an important biological connection between skeletal muscle development and rhabdomyosarcoma research.

As a Rhabdomyosarcoma Marker Antibody target, PAX7 should be interpreted within a broader panel of morphological, molecular and immunophenotypic findings rather than as a standalone marker of disease. Other proteins associated with skeletal muscle differentiation, including MYOD1 and myogenin, are commonly investigated alongside PAX family proteins when studying myogenic tumors. Research into these factors can help characterize lineage-specific transcriptional programs and clarify how developmental pathways become altered during tumorigenesis.

PAX7 is therefore relevant to research spanning cancer biology, developmental biology, myogenesis and muscle stem cell regulation. Its roles in normal myogenic progenitors and rhabdomyosarcoma provide a useful framework for investigating relationships between developmental transcription programs and malignant transformation. NSJ Bioreagents supplies antibodies to PAX7 and related proteins involved in skeletal muscle lineage and tumor biology. The PBPX7 clone provides a mouse monoclonal reagent for investigating PAX7 expression in experimental samples.

For additional information on PAX7 and its use in studying muscle stem and progenitor cell populations, see our PAX7 Antibody page.

## Application Notes

Optimal dilution of the PAX7 Antibody / Rhabdomyosarcoma Marker Antibody should be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

## Immunogen

A recombinant fragment (aa300-600) was used as the immunogen for the PAX7 antibody.

## Storage

Store the PAX7 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

## Alternate Names

PAX7 antibody, Rhabdomyosarcoma marker antibody, Paired box protein 7 antibody, Paired box 7 antibody, Satellite cell marker antibody, Muscle stem cell marker antibody


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