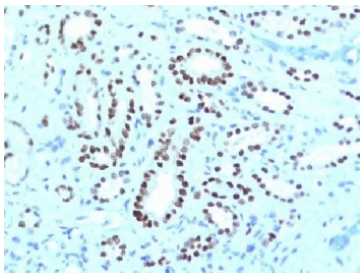
PAX8 Antibody / Tumor Origin Identification Marker Antibody [clone PAX8/1491 + PAX8/1492] (V3414)

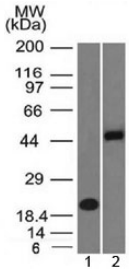
Catalog No.	Formulation	Size
V3414-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3414-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3414SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b + Mouse IgG2a
Clone Name	PAX8/1491 + PAX8/1492
Purity	Protein G affinity chromatography
UniProt	Q06710
Localization	Nuclear, cytoplasmic
Applications	Flow cytometry: 0.5-1ug/10^6 cells Immunofluorescence: 1-2ug/ml Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This PAX8 antibody cocktail is available for research use only.



PAX8 Antibody / Tumor Origin Identification Marker Antibody immunohistochemistry in human renal cell carcinoma tissue showing strong nuclear HRP-DAB brown staining in tumor epithelial cells. Paired box protein Pax-8 (PAX8) expression is localized to nuclei of carcinoma cells forming glandular and tubular structures, with clear contrast against surrounding stromal elements that remain largely negative. The staining pattern supports renal epithelial origin, with dense nuclear positivity consistent across tumor cell populations, aiding tumor lineage identification in carcinoma specimens. Required HIER: boil tissue sections in 10mM Tris buffer with 1mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 minutes.



PAX8 Antibody / Tumor Origin Identification Marker Antibody western blot analysis in human samples. Lane 1: human partial recombinant protein, Lane 2: human Raji cell lysate. A band is detected at approximately 48 kDa, consistent with the predicted molecular weight of Paired box protein Pax-8 (PAX8). Additional bands between ~31-43 kDa correspond to known PAX8 isoforms, while a higher band near ~62 kDa may reflect post-translationally modified forms of the protein or altered electrophoretic mobility. The observed banding pattern supports detection of multiple PAX8 isoforms and aligns with expected transcription factor expression in human cells.

Description

Paired box protein Pax-8 (PAX8) is a nuclear transcription factor encoded by the PAX8 gene that functions as a lineage-restricted regulator of epithelial identity in thyroid, renal, and Mullerian-derived tissues. Its highly selective expression pattern across these tissue types makes it one of the most reliable markers for determining tumor origin in both primary and metastatic settings. PAX8 Antibody is widely used to support lineage tracing at the protein level, particularly in tissue-based studies where morphological features alone are insufficient for definitive classification.

PAX8 antibody, also known as Paired box protein Pax-8 antibody or Pax-8 transcription factor antibody, is uniquely positioned for tumor origin identification because its expression is largely retained during tumorigenesis. This PAX8 Antibody is uniquely positioned for distinguishing tumors derived from thyroid follicular epithelium, renal tubular cells, and Mullerian epithelial tissues from morphologically similar malignancies of unrelated origin. Nuclear staining provides a clear and interpretable signal that directly reflects lineage-specific transcriptional activity, enabling confident assignment of tumor identity.

Functionally, PAX8 maintains transcriptional programs that define epithelial lineage and cellular differentiation. Unlike many markers that are downregulated during tumor progression, PAX8 expression is often preserved in differentiated carcinomas, making it particularly useful for identifying tumors even in metastatic or poorly characterized samples. This stability enhances its value in studies focused on tumor classification and origin determination.

In metastatic disease, identifying the primary site of a tumor is a critical challenge. PAX8 expression provides strong evidence for a limited set of tissue origins, allowing exclusion of many alternative diagnoses. For example, nuclear PAX8 positivity supports renal, thyroid, or Mullerian origin, while its absence can help rule out these lineages. This binary interpretive power makes PAX8 especially valuable in complex diagnostic scenarios.

At the cellular level, PAX8 expression is confined to nuclei of lineage-specific epithelial cells, ensuring minimal ambiguity in staining interpretation. The clear nuclear signal allows separation of tumor cells from stromal, inflammatory, or background elements within tissue sections. This precise localization is essential when evaluating heterogeneous samples or small biopsy specimens.

PAX8 Antibody therefore provides a focused and highly effective tool for tumor origin identification. Its lineage-restricted expression, strong nuclear localization, and retention in many carcinomas support accurate classification of tumors across a range of clinical and research applications. This makes it particularly valuable in oncology studies, metastasis research,

and investigations where defining cellular origin is central to interpretation.

Application Notes

Optimal dilution of the PAX8 Antibody / Tumor Origin Identification Marker Antibody should be determined by the researcher.

Immunogen

A human recombinant fragment (aa 60-261) was used as the immunogen for the PAX8 Antibody / Tumor Origin Identification Marker Antibody.

Storage

Store the PAX8 antibody cocktail at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

PAX8 tumor origin marker antibody, Paired box protein Pax-8 diagnostic marker antibody, PAX8 carcinoma identification antibody, Pax-8 tumor lineage antibody, PAX8 metastatic origin marker antibody

Copyright © NSJ Bioreagents. All rights reserved.