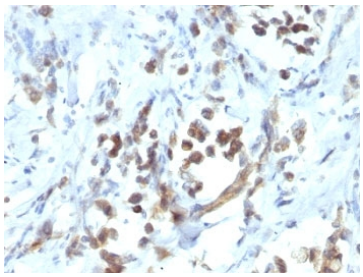
PAX6 Antibody [clone PAX6/1166] (V2771)

Catalog No.	Formulation	Size
V2771-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2771-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2771SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2771IHC-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	PAX6/1166
Purity	Protein G affinity chromatography
UniProt	P26367
RRID	AB_3083657
Localization	Nuclear
Applications	Immunohistochemistry (FFPE): 0.5-1ug/ml for 30 min at RT
Limitations	This PAX6 antibody is available for research use only.



PAX6 Antibody Gastric Carcinoma IHC. Immunohistochemical staining of formalin fixed, paraffin embedded human gastric carcinoma demonstrates PAX6 expression using PAX6 antibody clone PAX6/1166. PAX6 is a highly conserved transcription factor that regulates cellular differentiation and developmental programs and is essential for eye and nervous system development. Predominantly nuclear staining is observed in malignant epithelial cells, consistent with the role of PAX6 as a DNA binding protein involved in transcriptional regulation. These findings support the utility of PAX6 Antibody for studies of developmental signaling, stem cell biology, and cancer progression.

Description

PAX6 Antibody recognizes Paired Box Protein 6, a highly conserved transcription factor that plays essential roles in embryonic development, tissue differentiation, and maintenance of stem and progenitor cell populations. PAX6 belongs to the paired box family of DNA binding proteins and contains both paired and homeobox domains that enable it to regulate the expression of numerous genes involved in organogenesis and cellular identity. PAX6 is widely regarded as a master regulator of eye development and is indispensable for the formation of the retina, lens, cornea, and other ocular structures. In addition to its role in the visual system, PAX6 contributes to the development of the central nervous system, pancreas, and olfactory tissues.

PAX6 functions by controlling transcriptional networks that govern cell proliferation, migration, differentiation, and survival. During embryogenesis, PAX6 expression helps establish regional identity within the developing brain and spinal cord and regulates the maturation of neuronal progenitor cells. In the adult organism, PAX6 continues to participate in tissue homeostasis and stem cell maintenance. Through interactions with signaling pathways including Sonic Hedgehog, Wnt, and fibroblast growth factor pathways, PAX6 coordinates complex developmental processes and cellular responses to environmental cues.

Mutations or altered expression of PAX6 are associated with numerous developmental disorders, most notably aniridia, congenital eye malformations, and neurological abnormalities. Dysregulation of PAX6 has also been implicated in diabetes, neurodegenerative diseases, and cancer. Depending on tissue context, PAX6 may function as either a tumor suppressor or a regulator of tumor progression. Altered PAX6 expression has been reported in gliomas, pancreatic cancer, lung cancer, and other malignancies, highlighting its importance in both developmental biology and disease pathogenesis.

Beyond embryonic development, PAX6 influences neurogenesis, regeneration, and cellular plasticity. Its ability to regulate stem cell fate and differentiation has made PAX6 an important marker in studies of induced pluripotent stem cells and tissue engineering. Because PAX6 mediated transcriptional programs are highly conserved across species, the protein serves as a valuable target for investigations of developmental mechanisms and regenerative medicine.

PAX6 Antibody is useful for studies of eye development, neurobiology, stem cell biology, and cancer research. Detection of endogenous PAX6 provides a valuable tool for investigating transcriptional regulation, cellular differentiation, and diseases associated with abnormal developmental signaling.

Explore our Stem Cell Antibodies page to discover PAX6 antibodies and other transcription factors involved in neural development, progenitor cell identity, and tissue regeneration.

Application Notes

Optimal dilution of the PAX6 antibody should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris buffer with 1mM EDTA, pH 9.0, for 10-20 min followed by cooling at RT for 20 min
2. 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 (N-terminus; aa 1-300) was used as the immunogen for the PAX6 antibody.

Storage

Store the PAX6 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

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