PAX6 monoclonal antibody

Catalog: MB66947 Host: Mouse Reactivity: Human

BackGround:

Paired box (PAX) proteins are a family of transcription factors that play important and diverse roles in animal development . Nine PAX proteins (PAX1-9) have been described in humans and other mammals. They are defined by the presence of an amino-terminal "paired" domain, consisting of two helix-turn-helix motifs, with DNA binding activity . PAX proteins are classified into four structurally distinct subgroups (I-IV) based on the absence or presence of a carboxy-terminal homeodomain and a central octapeptide region. Subgroup I (PAX1 and 9) contains the octapeptide but lacks the homeodomain; subgroup II (PAX2, 5, and 8) contains the octapeptide and a truncated homeodomain; subgroup III (PAX3 and 7) contains the octapeptide and a complete homeodomain; and subgroup IV (PAX4 and 6) contains a complete homeodomain but lacks the octapeptide region . PAX proteins play critically important roles in development by regulating transcriptional networks responsible for embryonic patterning and organogenesis ; a subset of PAX proteins also maintain functional importance during postnatal development . Research studies have implicated genetic mutations that result in aberrant expression of PAX genes in a number of cancer subtypes , with members of subgroups II and III identified as potential mediators of tumor progression .

Pax6 has important functions in organ development. It is a key regulator of eye development , and mutations in Pax6 have been associated with some forms of aniridia, a congenital malformation of the eye . Pax6 is also involved in neuronal development, which plays an especially important role in corticogenesis . Within its role in the adult brain, it has recently been associated with aging, with gene occupancy studies showing increased association of Pax6 with genes associated with many aging processes in mice . Pax6 also plays another important function in development and maintenance of pancreatic β-cells . Driven by expression of Pdx1, both Pax6 and NGN3 expression is required for β-cell identity .

Product:

Mouse IgM kappa. Supplied in crude ascites with 0.01% sodium azide.

Molecular Weight:

~ 50 kDa

Swiss-Prot:

P26367

Purification&Purity:

Applications:

WB (1/500 - 1/4000), IF/ICC (1/10 - 1/50)

Storage&Stability:

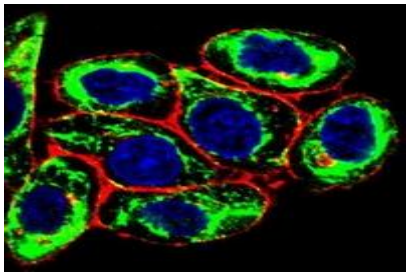
Store at 4℃ short term. Aliquot and store at -20℃ long term. Avoid freeze-thaw cycles.

Specificity:

Recognizes endogenous levels of PAX6 protein.

DATA:

Western blot analysis of PAX6 expression in 293 (A) whole cell lysates.



Immunofluorescent analysis of PAX6 staining in Hela cells. Forma-

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lin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 ℃ in a humidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF555 was used to stain the cytoplasm (red). DAPI was used to stain the cell nuclei (blue).

Note:

For research use only, not for use in diagnostic procedure.

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