Anti-PAX8 Antibody [6G1]

EM1902-22

Product Type:	Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IHC-P, FC
Molecular Wt:	Predicted band size: 48 kDa
Clone number:	6G1

Description: Paired box gene 8, also known as PAX8, is a protein which in humans is encoded by the PAX8 gene. This gene is a member of the paired box (PAX) family of transcription factors. Members of this gene family typically encode proteins which contain a paired box domain, an octapeptide, and a paired-type homeodomain. The PAX gene family has an important role in the formation of tissues and organs during embryonic development and maintaining the normal function of some cells after birth. The PAX genes give instructions for making proteins that attach themselves to certain areas of DNA. This nuclear protein is involved in thyroid follicular cell development and expression of thyroid-specific genes. PAX8 releases the hormones important for regulating growth, brain development, and metabolism. Also functions in very early stages of kidney organogenesis, the müllerian system, and the thymus. Additionally, PAX8 is expressed in the renal excretory system, epithelial cells of the endocervix, endometrium, ovary, Fallopian tube, seminal vesicle, epididymis, pancreatic islet cells and lymphoid cells. PAX8 and other transcription factors play a role in binding to DNA and regulating the genes that drive thyroid hormone synthesis (Tg, TPO, Slc5a5 and Tshr). PAX8 (and PAX2) is one of the important regulators of urogenital system morphogenesis. They play a role in the specification of the first renal cells of the embryo and remain essential players throughout development.

Immunogen: Synthetic peptide within human PAX8 aa 400-450.

Positive control: 293T cell lysates, human thyroid gland tissue, mouse thyroid tissue, 293.

Subcellular location: Nucleus.

Database links: SwissProt Q06710 Human | Q00288 Mouse

Recommended Dilutions:

WB	1:500-1:2,000
IHC-P	1:200-1:2,000
FC	1:50-1:100

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

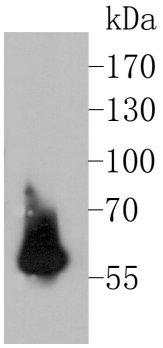

Fig1: Western blot analysis of PAX8 on 293T cell lysate. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (EM1902-22, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1:5,000 dilution was used for 1 hour at room temperature.

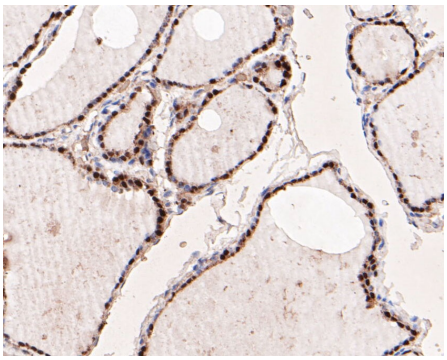

Fig2: Immunohistochemical analysis of paraffin-embedded human thyroid gland tissue using anti-PAX8 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (EM1902-22, 1/200) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

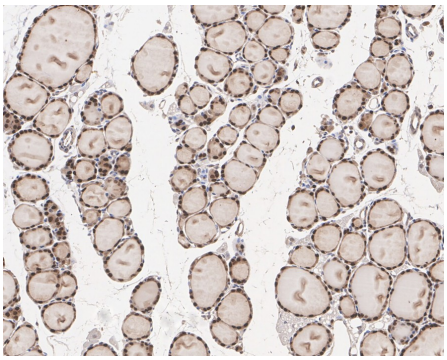

Fig3: Immunohistochemical analysis of paraffin-embedded mouse thyroid tissue with Mouse anti-PAX8 antibody (EM1902-22) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (EM1902-22) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

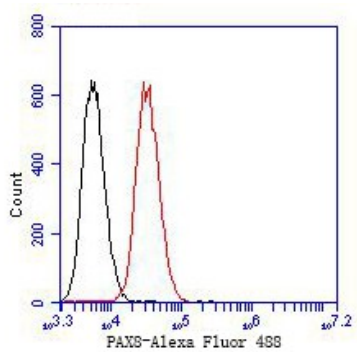

Fig4: Flow cytometric analysis of PAX8 was done on 293 cells. The cells were fixed, permeabilized and stained with the primary antibody (EM1902-22, 1/50) (red). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor 488-conjugated Goat anti-Mouse IgG Secondary antibody at 1/1000 dilution for 30 minutes.Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Vilain C. et. al. Autosomal dominant transmission of congenital thyroid hypoplasia due to loss-of-function mutation of PAX8. J. Clin. Endocrinol. Metab. 86:234-238(2001).
2. Congdon T. et. al. A novel mutation (Q40P) in PAX8 associated with congenital hypothyroidism and thyroid hypoplasia: evidence for phenotypic variability in mother and child. J. Clin. Endocrinol. Metab. 86:3962-3967(2001)