10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Mafa Rabbit pAb

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Catalog # AP94622

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q8CF90
Reactivity	Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	37576
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from mouse Mafa
Epitope Specificity	265-359/359
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus. Note=Detected in nuclei of pancreas islet beta cells.
SIMILARITY	Belongs to the bZIP family. Maf subfamily. Contains 1 bZIP (basic-leucine zipper) domain.
SUBUNIT	Binds DNA as a homodimer. Interacts with PCAF. Interacts with NEUROD1 and PDX1.
Post-translational modifications	Ubiquitinated, leading to its degradation by the proteasome. Phosphorylation by GSK3 requires prior phosphorylation of Ser-65 by another kinase. Phosphorylation proceeds then from Ser-61 to Thr-57, Thr-53 and Ser-49. GSK3-mediated phosphorylation increases its transcriptional activity through the recruitment of the coactivator PCAF, is required for its transforming activity and leads to its degradation through an ubiquitin/proteasome-dependent pathway. Ser-14 and Ser-65 appear to be the major phosphorylation sites. Phosphorylated by MAPK13 on serine and threonine residues (Probable).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Insulin gene expression is regulated by several islet-enriched transcription factors. However, MAFA is the only beta cell-specific activator. MAFA selectively induces endogenous insulin transcription in non-beta cells. MAFA was also first detected in the insulin-producing cells formed during the second and predominant phase of beta cell differentiation, and absent in the few insulin-positive cells found in Nkx6.1(-/-) pancreata, which lack the majority of second-phase beta cells. These results demonstrate that MAFA is a potent insulin activator that is likely to function downstream of Nkx6.1 during islet insulin-producing cell development.

Additional Information

Gene ID	378435

Other Names	Transcription factor MafA, Pancreatic beta-cell-specific transcriptional activator, V-maf musculoaponeurotic fibrosarcoma oncogene homolog A, Mafa
Target/Specificity	Selectively expressed in pancreatic beta but not in alpha cells (at protein level). Expressed in eyes and at low levels in thymus. Expressed in brain, lung, spleen and kidney. Expressed in embryo.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Mafa
Function	Transcriptional factor that activates insulin gene expression (PubMed:12368292, PubMed:15665000). Acts synergistically with NEUROD1/BETA2 and PDX1 (PubMed:15665000). Binds the insulin enhancer C1/RIPE3b element (PubMed:12917329, PubMed:14680841, PubMed:14973194, PubMed:15665000). Binds to consensus TRE-type MARE 5'-TGCTGACTCAGCA-3' DNA sequence (By similarity).
Cellular Location	Nucleus
Tissue Location	Expressed in brain, lung, spleen, pancreas and kidney (PubMed:12368292, PubMed:14680841). In the pancreas, expressed in the insulin-producing beta-cells of the islets of Langerhans (at protein level) (PubMed:12917329, PubMed:15923615). Also expressed in the eye (PubMed:12368292, PubMed:15923615)

Background

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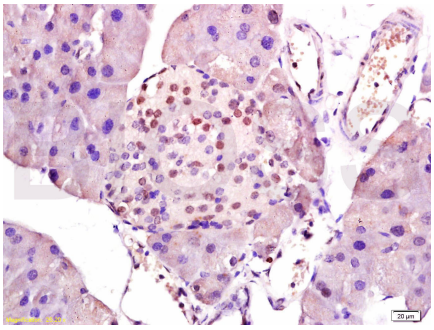
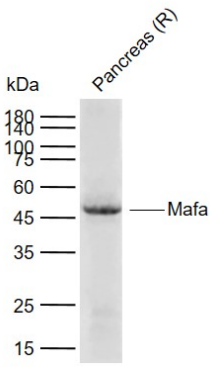
Images



Tissue/cell: rat pancreas tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min; Incubation: Anti-Mafa Polyclonal Antibody, Unconjugated(AP94622) 1:400, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

Sample: Lane 1: Rat Pancreas tissue lysates Primary: Anti-Mafa (AP94622) at 1/1000 dilution Secondary:



IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 37 kDa Observed band size: 47 kDa