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Datasheet for 200-4152

Carboxypeptidase A Antibody

Overview

Description:	Anti-Carboxypeptidase A (RABBIT) Antibody (BULK ORDER) - 200-4152
Item No.:	200-4152
Size:	50 mg
Applications:	WB, IF, Other
Reactivity:	Bovine
Host Species:	Rabbit

Product Details

Background:	Carboxypeptidase that catalyzes the release of a C-terminal amino acid, but has little or no action with -Asp, -Glu, -Arg, -Lys or -Pro.
Synonyms:	rabbit anti-Carboxypeptidase A antibody, Carboxypeptidase A1 precursor antibody, CPA1 antibody, Pancreatic carboxypeptidase A1 antibody, Procarboxypeptidase A1 pancreatic antibody
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	CPA1
Reactivity:	Bovine
Immunogen Type:	Native Protein
Immunogen:	Carboxypeptidase A [Bovine Pancreas]

Purity/Specificity:	Anti-Carboxypeptidase A is an IgG fraction antibody purified from monospecific antiserum by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by extensive dialysis against the buffer stated above. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Rabbit Serum as well as purified and partially purified Carboxypeptidase A [Bovine Pancreas]. Cross reactivity against Carboxypeptidase A from other tissues and species may occur but have not been specifically determined.
Relevant Links:	• UniProtKB - P00730 • NCBI - NP_777175.1 • GeneID - 286762

Application Details

Tested Applications:	WB
Suggested Applications:	IF, Other (Based on references)
Application Note:	Anti-Carboxypeptidase A has been tested by western blot and is suitable for use in ELISA and immunohistochemistry. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:250,000
IHC:	User Optimized
WB:	1:500 - 1:3,000

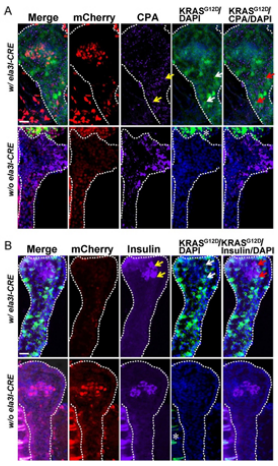
Formulation

Physical State:	Lyophilized
Concentration:	10.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None
Reconstitution Volume:	5.0 mL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

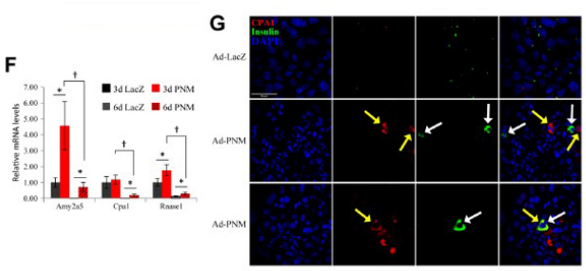
Shipping & Handling

Shipping Condition:	Ambient
Storage Condition:	Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

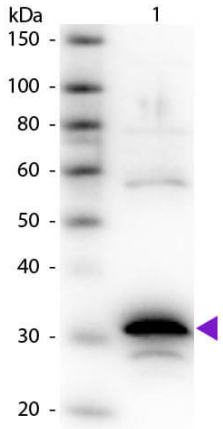
Images



Immunofluorescence Microscopy
Early KRASG12D-responsive pancreatic progenitors contribute to endocrine as well as exocrine cells. (A) The pancreas from 5 dpf double transgenic Tg (ela3I-CRE; LSL-KRASG12D) larvae was stained with an exocrine specific marker, CPA. CPA staining was observed in the apical cytoplasm as well-developed apical secretory granules (yellow arrows). The GFP signal was detected in both the membrane and cytoplasm as a surrogate marker of KRASG12D activation (white arrows). The merged confocal image showed that the pancreatic progenitor cells expressing oncogenic KRASG12D expressed CPA in apical secretory granules of exocrine pancreas (red arrows). (B) The pancreas from 5 dpf double transgenic Tg (ela3I-CRE; LSL-KRASG12D) larvae was stained with an endocrine specific marker, insulin. Insulin staining was shown in the cytoplasm of islet β-cells (yellow arrows). The merged confocal image showed that some of pancreatic progenitor cells expressing oncogenic KRASG12D co-expressed the endocrine cell marker, insulin (red arrows). Asterisk (*) indicates the auto fluorescence of the gut. Scale bar: 25 µm. Fig 2.
PMID: 31231585



Immunofluorescence Microscopy
Reprogrammed cells exhibit induced expression of endocrine genes and reduced expression of exocrine genes. (related to Figure 2) A-B.
Normalized counts from RNA-seq data for uninfected exocrine cells, GFP+ reprogrammed cells and β cells. Results are mean log2(normalized counts)±SD. n=4. For Ins1 and Ins2 levels, normalized counts in the GFP+ fraction were multiplied by 6 based on results from Fig. S2 E: 16.5% of GFP + cells are insulin positive. C. Fold changes of endocrine genes for induction in reprogrammed cells compared to uninfected exocrine cells, and in β cells compared to reprogrammed cells. D. Heatmap for acinar gene expression from RNA-seq data in cherry/GFP sorted populations. E. qPCR of acinar genes in day 5 Cherry +/- sorted populations. Results are mean ± SD. *,† p<0.05. n=4. F. qPCR of acinar genes in day 3 and 6 LacZ or PNM infected cells. Results are presented as mean ± SD. * p<0.05. n=4. G. Insulin and CPA1 staining in day 6 LacZ or PNM infected cells. 17/19 CPA1-/Insulin+ cells. Scale bar= 50 µm. H. qPCR of acinar genes in day 5 cherry or PDX1 infected exocrine cells. Results are mean ± SD. * p<0.05. n=4. I. Heatmap for duct cell gene expression from RNA-seq data in cherry/GFP sorted populations. J. qPCR of duct cell genes in day 5 Cherry +/- sorted populations. Results are mean ± SD. * p<0.05. n=4. Fig S3. PMID: 32375045



Western Blot
Western Blot of Rabbit Anti-Carboxypeptidase A primary antibody. Lane 1: Carboxypeptidase A. Load: 50 ng per lane. Primary antibody: Carboxypeptidase A primary antibody at 1:1,000 overnight at 4°C. Secondary antibody: Peroxidase rabbit secondary antibody (p/n 611-103-122) at 1:40,000 for 30 min at RT. Blocking: (p/n MB-070) for 30 min at RT. Predicted/Observed size: 34 kDa, 34 kDa for Carboxypeptidase A. Other band(s): Carboxypeptidase A splice variants and isoforms.

References

- Elhanani O et al. REST inhibits direct reprogramming of pancreatic exocrine to endocrine cells by preventing PDX1-mediated activation of endocrine genes. *Cell Rep.* (2020)
- Oh S et al. Zebrafish model of KRAS-initiated pancreatic endocrine tumor. *Anim Cells Syst (Seoul).* (2019)
- Zhang P et al. The PERK eukaryotic initiation factor 2α kinase is required for the development of the skeletal system, postnatal growth, and the function and viability of the pancreas. *Mol Cell Biol.* (2002)

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