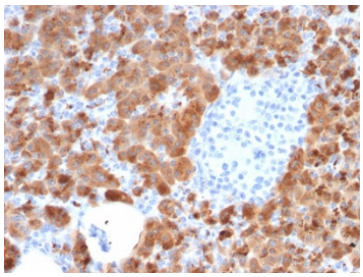
Carboxypeptidase A1 Antibody Microarray Specificity Validated / CPA1 Antibody [clone CPA1/2714] (V7404)

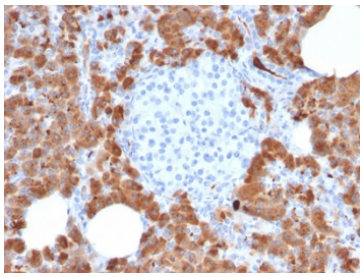
Catalog No.	Formulation	Size
V7404-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7404-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7404SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7404IHC-7ML	Prediluted 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

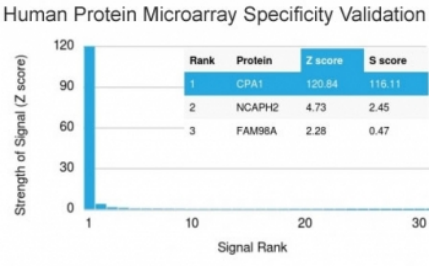
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	CPA1/2714
Purity	Protein G affinity
UniProt	P15085
Localization	Cytoplasmic, secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Western Blot : 1-2ug/ml
Limitations	This Carboxypeptidase A1 Antibody Microarray Specificity Validated / CPA1 Antibody is available for research use only.



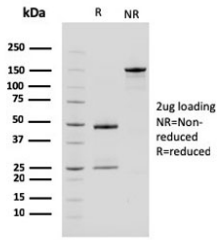
Carboxypeptidase A1 Antibody Pancreas IHC. Immunohistochemistry of Carboxypeptidase A1 / CPA1 in FFPE human pancreas tissue using mouse monoclonal Carboxypeptidase A1 antibody, clone CPA1/2714. Strong HRP-DAB brown cytoplasmic staining highlights pancreatic acinar cells, with clear negative islet regions providing internal contrast, consistent with the highly restricted expression pattern of CPA1 and supporting the specificity profile of this antibody, while nuclei are counterstained blue. Heat induced epitope retrieval was performed by boiling tissue sections in pH 6 10 mM citrate buffer for 10-20 min followed by cooling at RT prior to staining.



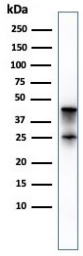
Carboxypeptidase A1 Antibody Human Pancreas Tissue Immunohistochemistry. IHC staining of Carboxypeptidase A1 / CPA1 in FFPE human pancreas tissue using mouse monoclonal Carboxypeptidase A1 antibody, clone CPA1/2714. Strong HRP-DAB brown cytoplasmic staining highlights pancreatic acinar cells, with clear negative islet regions providing internal contrast, consistent with the highly restricted expression pattern of CPA1 and supporting the specificity profile of this antibody, while nuclei are counterstained blue. Heat induced epitope retrieval was performed by boiling tissue sections in pH 6 10 mM citrate buffer for 10-20 min followed by cooling at RT prior to staining.



Carboxypeptidase A1 Antibody Microarray Validation. Protein microarray analysis of Carboxypeptidase A1 / CPA1 using mouse monoclonal Carboxypeptidase A1 antibody, clone CPA1/2714, demonstrates selective binding to CPA1 among a large panel of human proteins. Signal intensity is strongly enriched for the target protein, while non-target proteins show minimal reactivity, supporting a high level of specificity. Z-score represents the strength of antibody binding signal relative to the array background, expressed as standard deviations above the mean, while S-score reflects the separation between the top-ranked target and the next highest signal, indicating relative target specificity. The observed signal profile supports selective recognition of CPA1 in a proteome-wide context.



SDS-PAGE analysis of purified, BSA-free Carboxypeptidase A1 antibody (clone CPA1/2714) as confirmation of integrity and purity.



Carboxypeptidase A1 Antibody Pancreas WB. Western blot analysis of Carboxypeptidase A1 / CPA1 in human pancreas tissue lysate using mouse monoclonal Carboxypeptidase A1 antibody, clone CPA1/2714. A band is detected at approximately 45 kDa, consistent with the predicted molecular weight of CPA1, with a secondary lower band that may represent proteolytic processing of this digestive enzyme, supporting its expected biochemical behavior in pancreatic tissue.

Description

Carboxypeptidase A1 (CPA1) is a zinc-dependent digestive exopeptidase produced by pancreatic acinar cells and secreted as part of the exocrine enzyme system. Carboxypeptidase A1 Antibody Microarray Specificity Validated is designed for highly selective detection of CPA1, combining pancreas immunohistochemistry and western blot performance with protein microarray-confirmed specificity. Carboxypeptidase A1 antibody, also referred to as CPA1

antibody in the literature, is widely used to study exocrine pancreas biology and digestive enzyme expression.

CPA1 is synthesized as an inactive precursor, procarboxypeptidase A1, and is activated in the intestinal lumen following proteolytic cleavage. The enzyme functions by removing C-terminal amino acids from peptides, contributing to efficient protein digestion. Its expression is highly restricted to pancreatic acinar cells, making it a reliable marker for exocrine pancreas identification and for distinguishing acinar-derived cell populations from other pancreatic compartments.

In immunohistochemistry, CPA1 is detected as strong cytoplasmic staining in pancreatic acinar cells, reflecting its localization within secretory granules prior to enzyme release. This staining pattern is typically uniform across acinar structures, with minimal signal observed in endocrine islet cells or surrounding stromal components. The clear acinar-restricted distribution, combined with absence of staining in adjacent non-acinar regions, supports the specificity profile of Carboxypeptidase A1 antibody in tissue-based assays.

Western blot analysis further supports selective detection of CPA1, with a band observed at approximately 45 kDa in human pancreas lysate, consistent with the predicted molecular weight of the mature enzyme. The presence of a secondary lower band may reflect proteolytic processing or partial degradation of the proenzyme, a known feature of digestive enzymes in tissue lysates, and does not detract from overall target recognition. This pattern aligns with expected CPA1 biology and supports reliable interpretation in biochemical assays.

A defining feature of this antibody is its validation by protein microarray analysis, which assesses binding across thousands of human proteins to confirm target selectivity. This approach provides a high-confidence measure of specificity by demonstrating preferential binding to CPA1 relative to other proteins, reducing the likelihood of cross-reactivity in complex samples. When combined with consistent pancreas-restricted immunohistochemistry and supporting western blot data, this validation framework strengthens confidence in CPA1 detection.

The mouse monoclonal clone CPA1/2714 antibody provides robust detection of CPA1 in both tissue-based and biochemical applications. Its combination of acinar-restricted staining, expected western blot behavior, and microarray-confirmed specificity makes it well suited for studies focused on digestive enzyme biology, pancreatic function, and accurate identification of acinar cell populations.

For additional tissue-specific detection and characterization of CPA1 expression as a pancreatic acinar cell marker, see our Carboxypeptidase A1 antibody clone CPA1/8163R featuring validated IHC and western blot data.

Application Notes

Optimal dilution of the Carboxypeptidase A1 Antibody Microarray Specificity Validated / CPA1 Antibody should be determined by the researcher.

1. 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

Full length recombinant human protein was used as the immunogen for the Carboxypeptidase A1 antibody.

Storage

Store the Carboxypeptidase A1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

CPA1 antibody, Carboxypeptidase A1 antibody, Procarboxypeptidase A1 antibody, Pancreatic exopeptidase antibody, Digestive enzyme CPA1 antibody