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# Pancreatic Marker IHC Antibody Sampler Kit



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1 Kit (7 x 20 microliters)

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Product Includes                                | Product # | Quantity | Mol. Wt    | Isotype/Source |
|---|-----------|----------|------------|----------------|
| Insulin (C27C9) Rabbit mAb                      | 3014      | 20 µl    |            | Rabbit IgG     |
| Proglucagon (D16G10) XP <sup>®</sup> Rabbit mAb | 8233      | 20 µl    |            | Rabbit IgG     |
| CD200 (E5J9V) XP <sup>®</sup> Rabbit mAb        | 23451     | 20 µl    | 45-50 kDa  | Rabbit IgG     |
| Pax6 (D3A9V) XP <sup>®</sup> Rabbit mAb         | 60433     | 20 µl    | 50 kDa     | Rabbit IgG     |
| NKX6.1 (D8O4R) Rabbit mAb                       | 54551     | 20 µl    | 44, 46 kDa | Rabbit IgG     |
| C-Peptide Antibody                              | 4593      | 20 µl    | 4 kDa      | Rabbit         |
| Pan-Keratin (C11) Mouse mAb                     | 4545      | 20 µl    | 46-58 kDa  | Mouse IgG1     |
| Anti-rabbit IgG, HRP-linked Antibody            | 7074      | 100 µl   |            | Goat           |
| Anti-mouse IgG, HRP-linked Antibody             | 7076      | 100 µl   |            | Horse          |

Please visit [cellsignal.com](http://cellsignal.com) for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

## Description

The Pancreatic Marker IHC Antibody Sampler Kit provides a useful selection of markers to distinguish pancreatic cell types that perform important functions to maintain glucose homeostasis. The kit also includes antibodies that differentiate pancreatic tumor subtypes. The sampler kit is designed for use on formalin-fixed, paraffin-embedded tissue samples.

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA, 50% glycerol, and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibodies.*

## Background

Insulin is a hormone that is produced and released from pancreatic  $\beta$  cells through a glucose sensing pathway. Proinsulin is the precursor molecule to insulin and is processed prior to its secretion. Insulin is composed of A-peptide and B-peptide which are joined by a disulfide bond. The center one-third of the molecule is cleaved and released as C-peptide, which has a longer half-life than insulin (1). Antibodies to both insulin and C-peptide are useful markers for  $\beta$  cells.

Glucose homeostasis is regulated by a variety of hormones including glucagon. Glucagon is synthesized as the precursor molecule proglucagon and is proteolytically processed to yield the mature peptide in  $\alpha$  cells of the pancreatic islets. Glucagon causes the release of glucose from glycogen and stimulates gluconeogenesis in the liver (2). Antibodies to glucagon and proglucagon are useful markers for pancreatic  $\alpha$  cells.

NKX6.1 is an important transcription factor in a network of transcription factors that are critical for pancreatic  $\beta$  cell development and maintenance (3). Antibodies to NKX6.1 are useful markers for  $\beta$  cells.

Pan-Keratin and CD200 antibodies are useful to mark and differentiate some pancreatic tumor subtypes. Pan-Keratin antibodies mark epithelial cells in pancreatic adenocarcinomas while CD200 is a useful marker for neuroendocrine pancreatic tumors (4).

## Background References

1. Straub, S.G. and Sharp, G.W. (2002) *Diabetes Metab Res Rev* 18, 451-63.
2. Richter, M.M. et al. (2022) *Diabetes* 71, 1852-1861.
3. Habener, J.F. et al. (2005) *Endocrinology* 146, 1025-34.
4. Lawlor, R.T. et al. (2019) *Virchows Arch* 474, 105-109.

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