Polyclonal anti human MUC2-D3

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Overview

A rabbit polyclonal antibody that detects D3 domain of Mucin-2. It targets an epitope within D3

domain from the N-terminal half, which is localized in amino acids 858-1259.

Mucin-2 (MUC2) (UniProt: Q02817; Gene ID: 4583) is a secreted glycoprotein encoded by the MUC2 (SMUC) gene in humans. It forms the primary structural component of the mucus layers lining the intestines, airways, and other mucosal tissues, providing a protective and lubricating barrier against pathogens and particulates.

Mucin-2 is synthesized with a cleavable signal peptide (aa 1â€“20) and forms disulfide-linked, highly O-glycosylated homotrimers containing four VWFD and two VWFC domains. In the colon, it constitutes both the inner and outer mucus layersâ€”excluding bacteria from the inner layer while undergoing proteolytic cleavage in the outer layer to create a looser matrix that supports bacterial colonization. The abundant O-glycans act as bacterial attachment sites and nutrient sources, shaping the species-specific colonic microbiota.

Reduced Mucin-2 expression, often due to MUC2 promoter methylation, has been associated with early-stage colorectal cancer development.

Immunogen

His-tagged recombinant fragment corresponding to 402 amino acids from the D3 domain of human Mucin-2.

Tested Applications

Electron Microscopy: A representative lot detected Human Mucin-2 protein in Electron Microscopy applications

Western Blotting Analysis: A representative lot detected Human Mucin-2 protein in Western Blotting applications

References

Javitt, G., et. al. (2020). Cell.183(3): 717-729).