MUC2, 7 ml Ready to use  
Clone: MRQ-18  
Cat. no.: MON-RTU1153

Specificity
Mucins are high molecular weight glycoproteins which constitute the major component of the mucus layer that protects the gastric epithelium from chemical and mechanical aggressions. In humans, at least 14 mucin genes have been identified that code for the mucin proteins. They are designated as MUC1, MUC2, MUC3, MUC4, MUC5AC, MUC5B, MUC6, MUC7, MUC8, MUC9, MUC11, MUC12, MUC13 and MUC16. Mucins share a common feature of a tandem-repeat domain rich in serine and threonine residues. These amino acid residues are potential O-glycosylation sites for attachment of the O-glycan chains that constitute up to 80% of the molecular weight of the final mucin glycoprotein.

The heterogeneous pattern of mucin expression, including the expression of the intestinal mucin MUC2, may provide new insights into the differentiation pathways of gastric carcinoma. The pattern of mucin expression may also be used as a clue to bring new insights into the biological behaviour of distinct clinicopathological entities related to the localisation of gastric carcinoma, namely proximal and distal gastric carcinomas. Pinto-de-Sousa et al. have shown in a comprehensive study of gastric carcinomas evaluated for expression of several mucins (MUC1, MUC2, MUC5AC and MUC6) that: (1) mucin expression is associated with tumour type (MUC5AC with diffuse and infiltrative carcinomas and MUC2 with mucinous carcinomas) but not with the clinico-biological behaviour of the tumours; and (2) mucin expression is associated with tumour location (MUC5AC with antrum carcinomas and MUC2 with cardia carcinomas), indirectly reflecting differences in tumour differentiation according to tumour location.

The following generalities apply to the patterns of Mucin expression:

MUC1 expression: apical surfaces of most epithelial cells in breast, GI, respiratory, and GU tracts.

MUC2 expression: specifically expressed in goblet cells of the small intestine & colon.  
Colonic CAs – 65%, Gastric CAs – 42%, Esophageal CAs – 17%

Rare outside of GI tract – with exception of; mucinous ca of breast, clear cell-type CAs of the ovary.

Immunoglobulin type
IgG1/K

Use
Paraffin, Frozen

Preparation and Pretreatment
1. Cut 3-4 µm section of formalin-fixed paraffin-embedded tissue and place on positively charged slides; dry overnight at 58 °C.
2. Deparaffinize, rehydrate, and epitope retrieve; the preferred method is the use of Heat Induced Epitope Retrieval (HIER) techniques in conjunction with a pressure cooker. The preferred method allows for simultaneous deparaffinization, rehydration, and epitope retrieval. Upon completion, rinse with 5 changes of distilled or deionized water.

3. If using HRP detection system, place slides in peroxide block for 10 minutes; rinse. If using AP detection system, omit this step.

Positive control
Colon, Colon Adenocarcinoma

Staining pattern
Cytoplasmic

Presentation
7 ml. prediluted. Ready to use

Anti-MUC2 is a mouse monoclonal antibody from tissue culture supernatant, diluted in phosphate buffered saline, pH 7.4, with protein base, and preserved with sodium azide preservative.

Storage & handling
Store antibody at 2-8°C until expiry date. For extended storage, the solution may be frozen in suitable aliquots. Avoid freeze/thaw cycles.

References:
FOR RESEARCH USE ONLY, NOT FOR DRUG, DIAGNOSTIC OR OTHER USE.

Also available on request:
1 ml, prediluted  Ready to use
0.1 ml, concentrate  1:50 - 1:200*
0.5 ml, concentrate  1:50 - 1:200*
1 ml, concentrate  1:50 - 1:200*

* The dilutions set forth above are estimates; actual results may differ because of variability in methods and protocols. Validation of antibody performance/protocol is the responsibility of the end user.