

**Datasheet for 600-401-GY2****MUC4 Antibody****Overview**

|                      |                                           |
|----------------------|-------------------------------------------|
| <b>Description:</b>  | Anti-MUC4 (RABBIT) Antibody - 600-401-GY2 |
| <b>Item No.:</b>     | 600-401-GY2                               |
| <b>Size:</b>         | 100 µg                                    |
| <b>Applications:</b> | ELISA, IHC, WB, Microarray                |
| <b>Reactivity:</b>   | Human                                     |
| <b>Host Species:</b> | Rabbit                                    |

**Product Details**

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b>Background:</b> | <p>This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI). MUC4 (Mucin 4, Cell Surface Associated) is a Protein Coding gene. This gene encodes an integral membrane glycoprotein found on the cell surface, although secreted isoforms may exist. At least two dozen transcript variants of this gene have been found, although for many of them the full-length transcript has not been determined or they are found only in tumor tissues. Highly glycosylated proteins called mucins, are the major constituents of mucus; the viscous secretion that covers epithelial surfaces such as those in the trachea, colon, and cervix. MUC4's ability to promote tumor growth may be mainly due to repression of apoptosis as opposed to proliferation. MUC4 seems to alter cellular behavior through both anti-adhesive effects on cell-cell and cell-extracellular matrix interactions and in its ability to act as an intramembrane ligand for ERBB2. These glycoproteins play an important role in cell proliferation and differentiation of epithelial cells by inducing specific phosphorylation of ERBB2. The MUC4-ERBB2 complex causes site-specific phosphorylation of the ERBB2 Tyr-1248. In polarized epithelial cells segregates ERBB2 and other ERBB receptors and prevents ERBB2 from acting as a co-receptor. The interaction with ERBB2 leads to enhanced expression of CDKN1B. The formation of a MUC4-ERBB2-ERBB3-NRG1 complex leads to down-regulation of CDKN1B, resulting in repression of apoptosis and stimulation of proliferation. May play a role in tumor progression. MUC4 is associated with diseases such as bile duct cancer, keratitis, adenosquamous carcinoma, and pancreatic adenocarcinomas. Anti-MUC4 Antibody is useful for researchers interested in digestion, cancer research, and extracellular matrix Antibodies.</p> |
| <b>Synonyms:</b>   | Rabbit Anti-MUC4 Antibody, Rabbit Anti-Mucin 4 Antibody, MUC4, Mucin-4, Ascites sialoglycoprotein, ASGP, Pancreatic adenocarcinoma mucin, Testis mucin, Tracheobronchial mucin, Mucin-4 alpha chain, Ascites sialoglycoprotein 1, ASGP-1, Mucin-4 beta chain, Ascites sialoglycoprotein 2, ASGP-2, MUC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                      |            |
|----------------------|------------|
| <b>Host Species:</b> | Rabbit     |
| <b>Clonality:</b>    | Polyclonal |
| <b>Format:</b>       | IgG        |

## Target Details

|                            |                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name:</b>          | MUC4                                                                                                                                                                                                                                                                                                                                                         |
| <b>Reactivity:</b>         | Human                                                                                                                                                                                                                                                                                                                                                        |
| <b>Immunogen Type:</b>     | Conjugated Peptide                                                                                                                                                                                                                                                                                                                                           |
| <b>Immunogen:</b>          | This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a peptide corresponding to an internal portion of human Mucin-4.                                                                                                                                                                                |
| <b>Purity/Specificity:</b> | This affinity-purified antibody is directed against human MUC4 protein. The product was affinity purified from monospecific antiserum by immunoaffinity chromatography. A BLAST analysis was used to suggest cross reactivity with MUC4 from human based on 100% sequence homology with the immunogen. Reactivity with MUC4 from other sources is not known. |
| <b>Relevant Links:</b>     | <ul style="list-style-type: none"><li>• <a href="#">UniProtKB - Q99102</a></li><li>• <a href="#">NCBI - NP_004523.3</a></li><li>• <a href="#">GeneID - 4585</a></li></ul>                                                                                                                                                                                    |

## Application Details

|                                |                                                                                                                                                                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tested Applications:</b>    | ELISA, IHC, WB                                                                                                                                                                                                                                     |
| <b>Suggested Applications:</b> | Microarray (Based on references)                                                                                                                                                                                                                   |
| <b>Application Note:</b>       | Anti-MUC4 Antibody was tested in ELISA, Western Blot, and Immunohistochemistry. Antibodies shows no cross reactivity to non-mucilated proteins. Positive control used in WB were HPAC, HPAF-II, and Capan-2 cell lines and IHC was HPAC cell line. |
| <b>Assay Dilutions:</b>        | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.                                                                                                                                                    |
| <b>ELISA:</b>                  | 5 ug/ml                                                                                                                                                                                                                                            |
| <b>IHC:</b>                    | 1:1000                                                                                                                                                                                                                                             |
| <b>WB:</b>                     | 1:1000                                                                                                                                                                                                                                             |

## Formulation

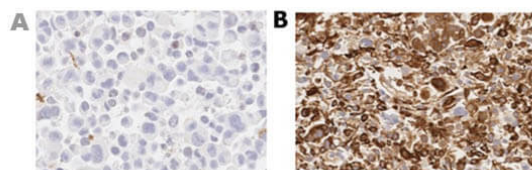
|                        |                           |
|------------------------|---------------------------|
| <b>Physical State:</b> | Liquid (sterile filtered) |
|------------------------|---------------------------|

|                       |                                                            |
|-----------------------|------------------------------------------------------------|
| <b>Concentration:</b> | 1.0 mg/ml by UV absorbance at 280 nm                       |
| <b>Buffer:</b>        | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 |
| <b>Preservative:</b>  | 0.01% (w/v) Sodium Azide                                   |
| <b>Stabilizer:</b>    | None                                                       |

## Shipping & Handling

|                            |                                                                                                                                                                                                                                                                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shipping Condition:</b> | Dry Ice                                                                                                                                                                                                                                                                                                                                       |
| <b>Storage Condition:</b>  | Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. 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. |
| <b>Expiration:</b>         | Expiration date is one (1) year from date of receipt.                                                                                                                                                                                                                                                                                         |

## Images



### Immunohistochemistry

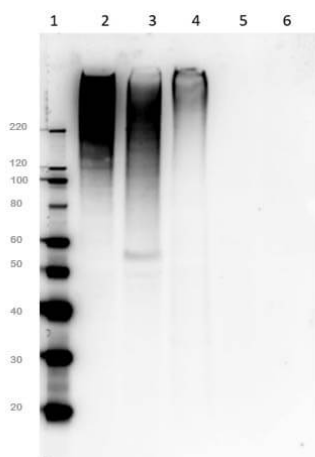
Immunohistochemistry of Rabbit Anti-MUC4 Antibody.

Tissue : A) Negative control PANC1; B) Positive control HPAC.

Primary Antibody: Anti-MUC4 at 1:1000. Secondary

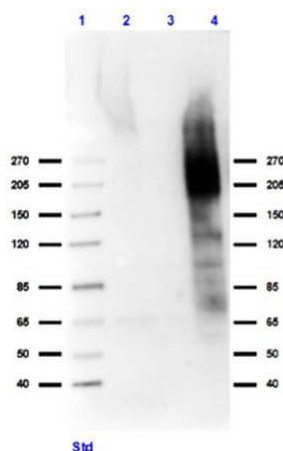
Antibody: Ready-to-Use Anti-Rabbit. Staining: DAB. Counter

Stain: Hematoxylin.



#### Western Blot

Western Blot of Rabbit Anti-MUC4 Antibody. Lane 1: Spectra Multicolor Ladder. Lane 2: HPAF-II [MUC4+]. Lane 3: HPAC [MUC4+]. Lane 4: Capan-2 [MUC4+]. Lane 5: MiaPaCa2 [MUC4-]. Lane 6: Panc-1 (p/n W09-001-GM2) [MUC4-]. Primary Antibody: Anti-MUC4 at 1:1000 in 2% BSA at RT for 2 hrs. Secondary Antibody: Goat Anti-Rabbit IgG HRP (p/n 611-103-122) at 1:70,000 in 5% BSA/PBS/0.1 Tween 20 for 1 hr at RT. Expect: ~550-930 kDa. Observed: ~200-300 kDa. Highly glycosylated protein.



#### Western Blot

Western Blot of Rabbit Anti-MUC4 Antibody. Lane 1: Spectra Multicolor Ladder. Lane 2: MDA-MB-231 lysate (p/n W09-001-GK6). Lane 3: HeLa lysate (p/n W09-001-364). Lane 4: HPAC Lysate (MUC4+) positive control. Primary Antibody: Anti-MUC4 at 1:1000 in (p/n MB-073) at RT for 30 min. Secondary Antibody: Goat Anti-Rabbit IgG HRP (p/n 611-103-122) at 1:70,000 in MB-073 for 1 hr at RT. Expect: ~550-930 kDa. Observed: ~200-300 kDa. Highly glycosylated protein.

## References

- Trabbic K., Whalen K., Abarca-Heideman K., Xia L., Temme J., Edmondson E., Gilersleeve J., Barchi J. A Tumor-Selective Monoclonal Antibody from Immunization with a Tumor-Associated Mucin Glycopeptide. *Nature Scientific Reports*. (2019)

## Disclaimer

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