

Anti-MUC1 [C595] Standard Size Ab02842-5.0

Isotype and Format: Mouse IgG3, Kappa

Clone Number: C595

Alternative Name(s) of Target: Mucin-1; Breast carcinoma-associated antigen DF3; Cancer antigen 15-3; CA 15-3; Carcinoma-associated mucin; Episialin; H23AG; Krebs von den Lungen-6; KL-6; PEMT; Peanut-reactive urinary mucin; PUM; Polymorphic epithelial mucin; PEM; Tumor-associated epithelial membrane antigen; EMA; Tumor-associated mucin; CD227

UniProt Accession Number of Target Protein: P15941

Published Application(s): RIA, therapeutic, WB, ELISA, IF, IHC

Published Species Reactivity: Human

Immunogen: This antibody was raised by immunizing mice with NCRC-11 defined epithelial antigen.

Specificity: This antibody is specific for human MUC1 epitope 'TRPA'. It has a binding site that closely resembles the binding site of NCRC-11. The alpha subunit of MUC1 has cell adhesive properties. Can act both as an adhesion and an anti-adhesion protein. May provide a protective layer on epithelial cells against bacterial and enzyme attack. The beta subunit of MUC-1 contains a C-terminal domain which is involved in cell signaling, through phosphorylations and protein-protein interactions. Modulates signaling in ERK, SRC and NF-kappa-B pathways. In activated T-cells, influences directly or indirectly the Ras/MAPK pathway. Promotes tumor progression. Regulates TP53-mediated transcription and determines cell fate in the genotoxic stress response. Binds, together with KLF4, the PE21 promoter element of TP53 and represses TP53 activity.

Application Notes: To compare this antibody to another antibody (NCRC-11) in its ability to bind its antigen, immunocytochemistry was performed on both breast carcinoma and normal tissue using the mouse version of this antibody. Furthermore, western blotting was performed on antigens defined by antibody clone NCRC-11 using the mouse version of this antibody (Price et al, 1990; PMID:1692469). To test the ability of this antibody to deliver therapeutic payloads to ovarian cancer cells, an in vivo assay was performed in mice inoculated with OVCAR3 using the mouse version of this antibody bound to bismuth 213 (Song et al, 2008; PMID:18347423). To determine MUC-1 expression in HNSCC, immunohistochemistry was performed on tumors from the larynx, the oral cavity and the pharynx using the mouse version of this antibody. Furthermore, western blotting was performed with the mouse version of this antibody to identify tumor antigens in circulating immune complexes (Rabassa et al, 2006; PMID:17064405). While assessing this antibody as a possible cancer treatment a toxicity study was performed on nude mice. It was done using the murine version of this antibody in combination with DTX. The MTD of a single dose appeared to be between 10 and 15 mg/kg. Further, mice inoculated with OVCAR-3 were treated with the murine

version of this antibody. It significantly decreased the amount of ascites present in the mice compared to control. Finally, immunohistochemistry was performed on cancer tissue from mice treated with this antibody using the murine version of this antibody (Wang et al, 2011; pmid:21931707). To investigate the clinical application of an ¹¹¹In-labelled anti-MUC1 mucin monoclonal antibody (mAb) imaging for staging invasive bladder cancer, immunohistochemistry was performed on bladder cancer in metastases using the mouse version of this antibody. Further, the ¹¹¹In-labeled antibody was administered intravenously to bladder cancer patients to determine whether imaging was possible (Hughes et al, 2001; pmid:11121991). To characterize this antibody, radioimmunoassay was performed on a MUC1 related synthetic peptide CAPDTRPAPG (C-G) covalently linked to a branched 400–500 amino acid polylysine polymer backbone using the mouse version of this antibody. Further, an ELISA was performed on urinary MUC1 using the murine version of this antibody (Spencer et al, 1998; pmid:10217327).

Antibody First Published in: Price et al. C595--a monoclonal antibody against the protein core of human urinary epithelial mucin commonly expressed in breast carcinomas. Br J Cancer. 1990 May;61(5):681-6.

[PMID:1692469](#)

Note on publication: An IgG3 monoclonal antibody, C595, was prepared against urinary mucins isolated on a NCRC-11 antibody affinity column, and this 'second generation' antibody was shown to have a very similar pattern of reactivity to the original NCRC-11 antibody.

Product Form

Size: 200 µg Purified antibody.

Purification: Protein A affinity purified

Supplied In: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Concentration: 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.