

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived
Met13360-Gln14347 (Met13472Thr & Gln13957Lys) with a C-terminal 6-His tag
Accession # NP_078966.2

N-terminal Sequence Analysis Met13360

Predicted Molecular Mass 110 kDa

SPECIFICATIONS

SDS-PAGE 170-200 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Human CA125/MUC16 is coated at 1 µg/mL (100 µL/well), the concentration of Recombinant Human Galectin-3 (Catalog # 1154-GA) that produces 50% of the optimal binding response is found to be approximately 0.35-1.4 µg/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 250 µg/mL in PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

MUC16, also known as the CA125 antigen, is a mucin protein that may be found in type I transmembrane or secreted forms that are used monitor the progress of epithelial ovarian cancer therapy (1, 2). Expression of isoforms, proteolytic cleavage, and heavy N- and O-linked glycosylation produce forms of human MUC16 that can vary from 1148 to 22152 amino acids (aa) in length and 200 - 5000 kDa in size (1, 2). The 22152 aa form contains ser/thr-rich N-terminal tandem repeats, 4 LRR (Leu-rich repeat) domains, 56 SEA (sea urchin sperm protein, enterokinase and agrin) domains, a transmembrane domain, and a 31 aa cytoplasmic domain that includes a tyrosine phosphorylation site (1-4). SEA domains are ~120 aa in length, contain conserved residues including potential O-glycosylation sites and a pair of cysteines, and are often found in transmembrane mucins (3). The protein produced by R&D Systems represents aa 13360-14347 of the full sequence and includes the last 6 SEA domains. It shares 68% aa identity with canine MUC16. MUC16 is over-expressed by tumor cells including ovarian and mesothelial cancers (5). The transmembrane form can adhere to mesothelin in the peritoneum, facilitating metastasis of ovarian cancer to the peritoneal cavity (5-7). MUC16 also binds galectin-1 on immune cells and enhances its expression on tumor cells (8). MUC16-expressing tumors adhere to NK cells, down-regulate CD16 and suppress NK response, which may promote immune evasion (9, 10). MUC16 is also cyclically expressed in the endometrium and may contribute to immune privilege during pregnancy (10). In the eye, MUC16 and other mucins protect the cornea and keep it hydrated. It is altered on the conjunctival epithelium of patients with non-Sjogren dry eye syndrome (11).

References:

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