

## Product Data Sheet

## Mucin-1/MUC1 Isoform Y Protein, Human (HEK293, Fc)

Cat. No.:	HY-P700795
Synonyms:	MUC1/Y; MUC1; MUC-1; Mucin-1; Mucin1; CA 15-3; Episialin; H23AG; KL-6; PEMT; PUM; PEM; EMA; CD227;
Species:	Human
Source:	HEK293
Accession:	P15941-7 (S24-G158)
Gene ID:	/
Molecular Weight:	55-65 kDa

PROPERTIES	
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 $\mu\text{g}/\text{mL}$ in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION	
Background	The Mucin-1/MUC1 protein exhibits diverse functional roles: the alpha subunit possesses cell adhesive properties and functions as both an adhesion and an anti-adhesion protein, potentially forming a protective layer on epithelial cells against bacterial and enzyme attacks. Simultaneously, the beta subunit, with its C-terminal domain, engages in cell signaling through phosphorylations and protein-protein interactions. Mucin-1/MUC1 modulates signaling in ERK, SRC, and NF-kappa-B pathways, influencing the Ras/MAPK pathway in activated T-cells. Additionally, it plays a role in promoting tumor progression, regulating TP53-mediated transcription, and determining cell fate in the genotoxic stress response. Notably, in conjunction with KLF4, Mucin-1/MUC1 binds to the PE21 promoter element of TP53, thereby repressing TP53 activity and contributing to the intricate network of cellular functions.

## Caution: Product has not been fully validated for medical applications. For research use only.

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