Recombinant FUT3 protein (His tag)

Catalog Number	544477
Synonyms	4-galactosyl-N-acetylglucosaminide 3-alpha-L-fucosyltransferase; Alpha-3-fucosyltransferase FUT3; Blood group Lewis alpha-4-fucosyltransferase; Lewis FT; Fucosyltransferase 3; Fucosyltransferase III; FucT-III
Species	Human
Expression System	E. coli
Accession	P21217
Molecular Weight	Predictes a molecular mass of 39.87 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band.

Product Information

Sequence Region	35-361
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 35-361 aa (P21217) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	This recombinant protein product features a stable and soluble fragment (residues 35-361) of the human 3-galactosyl-N-acetylglucosaminide 4-alpha-L-fucosyltransferase FUT3, also known as Fucosyltransferase III. This fragment is designed for structural and biochemical studies, enabling researchers to investigate the enzyme's catalytic activity in synthesizing Lewis blood group antigens and sialyl-Lewis structures. FUT3 is a Golgi apparatus-localized, membrane-bound enzyme that catalyzes the transfer of L-fucose to both type 1 and type 2 chain glycolipids and oligosaccharides via alpha(1,4) and alpha(1,3) linkages, respectively. It plays a critical role in synthesizing Lewis blood group system antigens (Le(a), Le(b), Le(x), Le(y)) and regulates the production of sialyl-Lewis a (sLe(a)) and sialyl-Lewis x structures, which are important for cell adhesion to E-selectin, cell proliferation, and migration. The enzyme's activity determines Lewis-positive or Lewis-negative phenotypes in individuals, highlighting its significance in glycobiology and cellular interaction studies.