



Recombinant Protein Technical Manual
Recombinant Human Chitotriosidase/CHIT1 Protein
(His Tag)
RPES2657

Product Data:

Product SKU: RPES2657

Size: 10µg

Species: Human

Expression host: HEK293 Cells

Uniprot: NP_003456.1

Protein Information:

Molecular Mass: 50.8 kDa

AP Molecular Mass: 48 kDa

Tag: C-His

Bio-activity:

Purity: > 94 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from sterile 12.5mM Tris, 75mM NaCl, 50% glycerol, pH 7.5

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: Chitotriosidase; Chitinase; CHIT1;CHI3;CHIT;CHITD

Immunogen Information:

Sequence: Met 1-Asn 466

Background:

Chitotriosidase, also known as Chitinase and CHIT1, is a member of the glycosyl hydrolase 18 family and Chitinase class II subfamily. It is a member of the mammalian chitinase family, structurally homologous to chitinases from other species, is synthesized and secreted by specifically activated macrophages. Chitotriosidase is a polymer of N-acetylglucosamine. Serum and plasma chitotriosidase activity is usually measured as the first step in diagnosis of Gaucher disease. Monitoring chitotriosidase activity is widely used during treatment of this pathology by enzyme replacement therapy. Its elevated plasma level reflects gradual intralysosomal accumulation in Gaucher cells (lipid-loaded macrophages). Macrophages overloaded by the enzyme accumulated in lysosomal material (lipids) were shown to secrete chitotriosidase; its increased expression was noted in several lysosomal storage diseases and atherosclerosis. In addition to lipid storage disorders, where Chit activity has longer been used as a marker of disease activity and therapeutic response, elevation of plasma Chit may occur in hematological disorders with storage of erythrocyte membrane breakdown products as thalassemia and different systemic infectious diseases sustained by fungi and other pathogens. Recently, increased Chit activity was demonstrated in CNS from patients with different neurological disorders. Chitotriosidase is believed to play a role in mechanisms of immunity and protection against chitin-containing pathogens.