

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Chitotriosidase/CHIT1 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human CHI3L1 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 397504
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Chitotriosidase/CHIT1 Ala22-Asn466 Accession # Q13231
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Chitotriosidase/CHIT1 (Catalog # 3559-GH), see our available Western blot detection antibodies
Neutralization	Measured by its ability to neutralize Recombinant Human Chitotriosidase/CHIT1 (20 ng/mL, Catalog # 3559-GH) cleavage of the fluorogenic peptide substrate 4-Methylumbelliferyl-β-D-N,N',N"-triacetylchitotriose (4-MU-TACT) (0.01 mM). The Neutralization Dose (ND ₅₀) is typically 56 ng/mL.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Chitotriosidase encoded by the CHIT1 gene is a member of the chitinase family that is selectively expressed in activated tissue macrophages (1). It is distinct from another member, known as acidic mammalian chitinase (AMC) encoded by the CHIA gene and expressed mainly in the gastrointestinal tract and lung (2). Both CHIA and CHIT1 are secreted as 50 kDa proteins. In contrast to CHIA, CHIT1 is not stable under acidic pHs and can be processed into a C-terminally truncated 39 kDa form (2, 3). CHIT1 is the best biomarker in the monitoring of Gaucher disease among the three most commonly used markers that also include acid phosphatase and angiotensin-converting enzyme (ACE) (4). CHIT1 is also a specific marker of macrophage activation in acute ischemic stroke (5).

References:

1. Aguilera, B. *et al.* (2003) J. Biol. Chem. **278**:40911.
2. Boot, R.G. *et al.* (2001) J. Biol. Chem. **276**:6770.
3. Renkema, G.H. *et al.* (1997) Eur. J. Biochem. **244**:279.
4. Vellodi, A. *et al.* (2005) J. Inherit. Metab. Dis. **28**:585.
5. Sotgiu, S. *et al.* (2005) Eur. Neurol. **54**:149.