Creative Enzymes®

Native Guinea pig Transglutaminase

Cat. No. NATE-0715

Lot. No. (See product label)

Introduction

Description	Transglutaminase from guinea pig liver consists of a single polypeptide chain of 691 amino acid residues. It has six potential glycosylation sites (Asn-X-Ser or Asn-X-Thr), but it is not glycosylated. The molecular mass is approximately 76.6 kDa. It is calcium dependent and has several calcium binding sites. The enzyme is inhibited by iodoacetamide and N-ethylmaleimide in the presence of calcium. It catalyzes the incorporation of small molecular weight amines into γ-glutamine sites of proteins. In the absence of small molecular weight amines, it catalyzes the cross linking of proteins that results in the formation of γ-glutamyl-ε-lysine side chain peptides. Liver transglutaminase is a nonzymogenic enzyme.
Applications	This product from Creative Enzymes has been used to demonstrate that tissue transglutaminase (tTG) selectively deamidates gluten peptides, which results in strongly enhanced T cell-stimulatory activity. It has also been used to assess immune responses to A-gliadin peptides. Furthermore, it has been used to demonstrate that tTG selectively modifies gliadin peptides that are recognized by gut-derived T cells in celiac disease. Transglutaminase has been used in a study to improve quantifiable assays to fully characterize the role of transglutaminase in diseases such as Huntington′s disease and Alzheimer′s disease.Transglutaminase has also been used in a study to develop a nonradioactive dot blot assay for transglutaminase activity.
Synonyms	transglutaminase; EC 2.3.2.13; 80146-85-6; transglutaminase; Factor XIIIa; fibrinoligase; fibrin stabilizing factor; glutaminylpeptide γ-glutamyltransferase; polyamine transglutaminase; tissue transglutaminase; R-glutaminyl-peptide:amine γ-glutamyl transferase; protein-glutamine γ-glutamyltransferase

Product Information

Species	Guinea pig
Source	Guinea pig liver
Form	Lyophilized powder containing Tris and dithioerythritol
EC Number	EC 2.3.2.13
CAS No.	80146-85-6
Activity	> 1.5 units/mg protein
Buffer	H2O: soluble 1.0 mg/mL, clear
Unit Definition	One unit will catalyze the formation of 1.0 μmole of hydroxamate per min from Nα-Z-Gln-Gly and hydroxylamine at pH 6.0 at 37°C. (L-Glutamic acid γ-monohydroxamate is the standard.)

Storage and Shipping Information

Storage	−20°C