Product Data Sheet

Product number **T035**
Revision number RN3.0

Product Name	Human keratinocyte transglutaminase (TG1)
Synonym	TG1, TGase 1, keratinocyte protein-glutamine-γ-glutamyltransferase
Source	Recombinant, produced in Insect cells
Quantity	150 µg
Molecular Weight	90 kDa
Activity	> 8,000 U/mg [Activity is determined by measuring the rate of fluorescence enhancement after His_6-rhTG1-catalyzed monodansylcadaverine-incorporation into N,N-dimethylated casein according to Lorand et al., Anal. Biochem. 44 (221-231)]. 1 U is defined as the increase in fluorescence intensity of 1 a.u./min (measured on a Cary eclipse fluorescence spectrophotometer, Varian; λ_{ex} = 332 nm, λ_{em} = 500 nm; band filter = 5 nm; detector strength = 600 V; temperature = 37 °C, assay volume = 1 ml)].
Molar extinction coefficient	Experimentally determined (protein concentration derived using Bradford assay): 184,709 M^{-1} cm^{-1} (50 mM Tris-HCl pH 8.0, 10 mM glutathione) 155,227 M^{-1} cm^{-1} (50 mM Tris-HCl pH 8.0; [Formulation of TG1, Cat. No. T155]) Calculated using Protparam (Gasteiner et al., The Proteomics Protocols Handbook, Humana Press(2005), pp. 571-607: 122,730 M^{-1} cm^{-1} (assuming all Cys residues are reduced)
Description	His_6-rhTG1 is based on the TGM1-allele from I.M.A.G.E.-clone IRAKp961M1628 isolated from human skin squamous cell carcinoma. It is N-terminally fused to a hexahistidine-tag resulting in the encoded N-terminal amino acid sequence MHHHHHHMDGPR… . His_6-rhTG1 is purified by IMAC to more than 90 % purity.
Application	His_6-rhTG1 catalyzes acyl transfer reactions from glutamin residues in proteins or peptides to primary amines, e. g. the formation of ε-(γ-glutamyl) lysine bonds between proteins by transferring the acyl group of a peptide-bound glutamine residue to the primary amino group of a peptide-bound lysine residue. His_6-rhTG1 may also be used for immunoprecipitation.
Purity	> 90% (visually by SDS-PAGE)
Activation	Add 10 mM Ca^{2+} to activate His_6-rhTG1.
Appearance	White lyophilized solid.
Reconstitution	Add the volume of H_2O the protein is lyophilized from (see Certificate of Analysis) to the vial of lyophilized powder. Rotate vial gently until solid dissolves. After reconstitution the solution should be stored frozen in working aliquots. Keep cooled on ice for short term storage.
Storage	Store at ≤ -20 °C. Store working aliquots at ≤ - 20°C. Avoid repeated freezing and thawing. ***Delivery at ambient temperature is possible***
Related products	T009 Human keratinocyte transglutaminase (TG1, recombinantly produced in E. coli) T101 1,3,4,5-Tetramethyl-2[(2-oxo-propyl)thio] imidazolium chloride T036 Transglutaminase Assay Kit, fluorescent, Casein, Dansylcadaverine A018 Polyclonal antibody to human keratinocyte transglutaminase A029 FITC-labelled polyclonal antibody to human TG1
Release date	23 December 2021

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