

Product number **T034**
Revision number **RN3.0**

Product Name	Human tissue transglutaminase
Source	human embryonic kidney cells (HEK-293F)
Quantity	100 µg
Background info	Transglutaminases are a family of enzymes that catalyze the posttranslational modification of proteins by inserting an isopeptide bond within or between polypeptide chains. These enzymes catalyze the acyl transfer reaction between the γ -carboxamide groups of peptide-bound glutamine residues and a variety of primary amines, particularly the ϵ -amino group of lysine. The resulting crosslink is of great significance, because it is highly stable and also resistant to mechanical and proteolytic degradation.
Description	His ₆ -rhTG2 is based on the TGM2-allele from I.M.A.G.E.-clone IMAGp958L121020 isolated from neuroblastoma cells of the human brain (Val224-allele, Kanchan et al., Biochem. J. 2013, 455:261–72). It is N-terminally fused to a hexahistidine-tag resulting in the encoded N-terminal amino acid sequence MHHHHHAEELV....
Molecular weight	78 kDa
Specific Activity	> 750 U/mg [Activity is determined by measuring the rate of fluorescence enhancement after TG2-catalyzed monodansylcadaverine-incorporation into N,N-dimethylated casein according to Lorand <i>et al.</i> , 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; $\lambda_{\text{ex}} = 332 \text{ nm}$, $\lambda_{\text{em}} = 500 \text{ nm}$; band filter = 5 nm; detector strength = 600 V; temperature = 37°C, assay volume = 1 ml)].
Application	Labeling, immobilisation, conjugation and modification of proteins.
Appearance	White lyophilized solid.
Formulation	The purified transglutaminase is lyophilized from 10 mM Tris-HCl pH 7.4, 300 mM NaCl, 1 mM DTT, 1 mM EDTA, contains 189 mg/mL maltodextrin.
Activation	Add 10 mM Ca ²⁺ to activate His ₆ -rhTG2.
Purity	> 95 % by SDS-PAGE under reducing conditions.
Reconstitution	Add the volume of H ₂ O 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.
Storage	Store at -20°C in working aliquots. Repeated freezing and thawing is not recommended. Delivery is possible at ambient temperature
Related products	T134 Open tTG™ (inhibited hTG2, rec. produced in HEK-293F cells) T123 hTG2-Biotin (biotinylated human TG2, rec. prod. in HEK293) F002 Tissue Transglutaminase Assay Kit Z006 Z-DON-Val-Pro-Leu-OMe A033 Monoclonal antibody to tissue transglutaminase (TG2, Core Domain)
Release date	23 December 2021
NOTE	INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR DIAGNOSTIC APPLICATIONS.