

Product number **T024**  
Revision number **RN4.0**

<b>Product Name</b>	Human epidermal transglutaminase (TG3, recombinantly produced in insect cells) Proenzyme (Zymogen)
<b>Synonym</b>	TG3, TGase 3, epidermal protein-glutamine-γ-glutamyltransferase, TG <sub>E</sub>
<b>Source</b>	Recombinantly produced in insect cells
<b>Quantity</b>	200 µg
<b>Molecular Weight</b>	78 kDa
<b>Description</b>	<p>His<sub>6</sub>-rhTG3 is based on the TGM3-allele from clone DKFZp686J0716 (isolated from different tissues), corrected by the insertion of the missing T at Position 435. It is N-terminally fused to a hexahistidine-tag resulting in the encoded N-terminal amino acid sequence MHHHHHHAALGV... .</p> <p>His<sub>6</sub>-rhTG3 is produced in insect cells and purified by ion metal chelating chromatography. His<sub>6</sub>-rhTG3 is a Ca<sup>2+</sup>-dependent enzyme.</p>
<b>Application</b>	His <sub>6</sub> -rhTG3 catalyzes acyl transfer reactions from glutamine 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 <sub>6</sub> -rhTG3 may also be used for immunoprecipitation and the detection of TG3 autoantibodies.
<b>Appearance</b>	White lyophilized solid.
<b>Reagents</b>	The Transglutaminase is lyophilized from 10 mM Tris-HCl pH 7.5, 150 mM NaCl, 1 mM EDTA and 1 mM DTT. Sample contains maltodextrin.
<b>Reconstitution</b>	Add the volume of water specified in the certificate of analysis under aliquotation to the vial of lyophilized powder. Rotate vial gently until solid dissolves. After reconstitution the solution should be stored frozen in working aliquots. For short term storage keep cooled on ice.
<b>Activation</b>	Incubate 0.01-0.2 mg/mL TG3 with 0.02 mg/mL Dispase I (Roche) and 3 mM CaCl <sub>2</sub> in 10-50 mM Tris-HCl buffer pH 7-8 at 37 °C for 20 min at 450 rpm.
<b>Specific Activity</b>	> 1000 U/mg [Activity is determined by measuring the rate of fluorescence enhancement after His <sub>6</sub> -rhTG3-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].

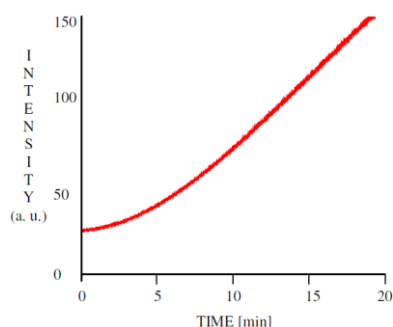


Fig 1: Fluorescence increase when measuring Dispase-activated His<sub>6</sub>-rhTG3 activity by incorporation of monodansylcadaverine in N,Ndimethylated casein. Note the delay in fluorescence increase.

# Product Data Sheet



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<b>Storage</b>	<p>Store at -80°C.</p> <p>If storage at -80°C is not possible, storage at <math>\leq -20^{\circ}\text{C}</math> is recommended. While no formal stability data are available at -20°C, according to our overall experience stability is still given.</p> <p>Store working aliquots preferably at -80°C (if not possible at <math>\leq -20^{\circ}\text{C}</math>, see comment above). Avoid repeated freezing and thawing.</p> <p><b><i>Delivery at ambient temperature is possible</i></b></p>
<b>Reference(s)</b>	<p>Hietikko et al., Acta. Derm. Venereol. 2018, 98:366-72 Yamane et al., FEBS J. 2010, 277:3564-74</p>
<b>Related products</b>	<p>T057    Inhibited human epidermal transglutaminase T013    Human epidermal transglutaminase, activated T101    1,3,4,5-Tetramethyl-2[(2-oxo-propyl)thio] imidazolium chloride T036    Transglutaminase Assay Kit, fluorescent, Casein, Dansylcadaverine A015    Polyclonal antibody to human epidermal transglutaminase (TG3) A030    FITC-labelled polyclonal antibody to human TG3</p>
<b>Release date</b>	<p>18 October 2024</p>
<b>NOTE</b>	<p>INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR DIAGNOSTIC APPLICATIONS.</p>