# Product Data Sheet

Product number **T167**
Revision number RN2.0

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| **Product Name** | Short human tissue transglutaminase, aa 1-465<br>(hTG2, Barrel 1 and 2 deletion-mutant) |
| **Synonym** | Tissue-type Transglutaminase, TG2, TGase 2, proteinglutamine-γ-glutamyltransferase |
| **Source** | Recombinant produced in *E. coli* |
| **Quantity** | 250 µg |
| **Molecular Weight** | 53.3 kDa |
| **Description** | Short rhTG2 is a truncated variant of TG2 lacking both ß-barrel domains. The protein was expressed in *E. coli* 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. Short rhTG2 was purified by ion metal chelating chromatography (IMAC). |
| **Activity** | Activity is determined by measuring the rate of fluorescence enhancement after rhTG2-catalyzed monodansylcadaverine-incorporation into N,N-dimethylated casein according to Lorand et al., Anal. Biochem. 44 (221-231).<br>1 U is defined as the increase in fluorescence intensity of 1 a.u./min (measured on a Cary eclipse fluorescence spectrophotometer, Varian; $\lambda_{ex}$ = 332 nm, $\lambda_{em}$ = 500 nm; band filter = 5 nm; detector strength = 600 V; temperature = 37°C, assay volume = 1 ml)]. |
| **Application** | rhTG2 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. rhTG2 may also be used for immunoprecipitation. |
| **Appearance** | Liquid |
| **Reagents** | The protein is stored in the following buffer: 20 mM Tris-HCl, 300 mM NaCl, pH 7,2. Sample contains 25% (v/v) Glycerin. |
| **Activation** | The Transglutaminase is activated with 10 mM $Ca^{2+}$. |
| **Important note:** | **In order for the protein to be catalytically active, it is necessary to incubate the working solution with a reducing agent, preferably 20-30 mM DTT, for at least 30 min at room temperature, immediately before use.** |
| **Storage** | Store at ≤ - 20°C. Store working aliquots at ≤ - 20°C. Avoid repeated freezing and thawing. |
| **Reference(s)** | Stamnaes et al, PLOS ONE, 2015, 10:e0134922 |
| **Related products** | A033 Monoclonal antibody to tissue transglutaminase (TG2, Core Domain)<br>F002 Tissue Transglutaminase Assay Kit<br>A102 TG2-Assay Substance, Abz-APE(CAD-DNP)QEA-OH |
| **Release date** | 30 December 2021 |
| **NOTE** | INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR DIAGNOSTIC APPLICATIONS. |