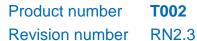
## **Product Data Sheet**





Product Name Human tissue transglutaminase (hTG2, recombinantly produced in E. coli)

Synonym Tissue-type Transglutaminase, TG2, TGase 2, proteinglutamine-γ-glutamyltransferase

Source Recombinant produced in *E. coli* 

**Quantity**  $250 \mu g / 1 mg$ 

Molecular Weight 78 kDa

**Description** His<sub>6</sub>-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 MAHHHHHHAEELV....

His6-rhTG2 is produced in E. coli and purified by ion metal chelating chromatography to more

than 90% purity.

**Activity** 1) > 1500 U/mg [Activity is determined by measuring the rate of fluorescence enhancement

after His6-rhTG2-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;  $\lambda_{\text{ex}}$  = 332 nm,  $\lambda_{\text{em}}$  = 500 nm; band filter = 5

nm; detector strength = 600 V; temperature = 37°C, assay volume = 1 ml)].

2) 0.59 U/mg [One unit will catalyse the formation of 1 µmol of hydroxamate per min from

Z-Gln-Gly-OH and hydroxylamine at pH 6.0 at 37°C, Grossowicz et al. (1950)]

**Application** His<sub>6</sub>-rhTG2 catalyzes acyl transfer reactions from glutamine residues in proteins or peptides to

primary amines, e. g. the formation of  $\varepsilon$ -( $\gamma$ -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. His6-rhTG2 may also be used for immunoprecipitation.

**Appearance** White lyophilized solid.

Reagents The Transglutaminase is lyophilized from 50 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, pH 8 and less than

0.1 mM Imidazole. Sample contains maltodextrin.

**Activation** The Transglutaminase is activated with 10 mM Ca<sup>2+</sup>; due to the precipitation of Calcium

Phosphate a buffer exchange (e. g. Tris-Buffer) prior to activation is highly recommended.

**Reconstitution** 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.

Storage Store at ≤ - 20°C. Store working aliquots at ≤ - 20°C. Avoid repeated freezing and thawing.

Delivery is possible at ambient temperature

## **Product Data Sheet**

Product number **T002**Revision number RN2.3



Reference(s) Schaertl et al., J. Biomol. Screen. 2010, 15:478-87;

Byrne et al., Clin. Immunol. 2010, 136:426-31; Perez Alea et al., Anal. Biochem. 2009, 389:150-6;

Yamane et al., FEBS J. 2010, 277:3564-74; Van den Akker et al., PLoS ONE 2011, 6:e23067

de Jager et al., J. Neurochem. 2015, doi: 10.1111/jnc.13203

Related products A033 Monoclonal antibody to tissue transglutaminase (TG2, Core Domain)

F002 Tissue Transglutaminase Assay Kit

A102 TG2-Assay Substance, Abz-APE(CAD-DNP)QEA-OH

Release date 29 June 2015

NOTE INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR

DIAGNOSTIC APPLICATIONS.