Product Data Sheet

Product number  T001
Revision number  RN3.6

Product Name  Recombinant microbial (bacterial) transglutaminase

Synonyms  EC 2.3.2.13; Protein-glutamine-γ-glutamyltransferase

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-carboxyamide 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, since it is highly stable and also resistant to mechanical and proteolytic degradation.

Source  Recombinantly produced in *E. coli*.
No material of animal origin is used within production process. Gene derived from *Streptomyces mobaraensis*.

Quantity
- 1x 25 U = 25 U
- 10x 25 U = 250 U
- 20x 25 U = 500 U
- 1x 250 U = 250 U
- 1x 500 U = 500 U

Molecular weight  38,333 Da (Dispase-activated MTG with N-terminal sequence: FRAPDSDDR...)

Specific Activity  > 25 U/mg [One unit will catalyse the formation of 1 µmole of hydroxamate per min from Z-Gln-Gly-OH and hydroxylamine at pH 6.0 at 37°C, Grossowicz et al. (1950)]

Reagents  The purified transglutaminase is lyophilized from 50 mM NaOAc pH 5.0 + 0.3 M NaCl.

Appearance  White lyophilized solid.

Reconstitution  Add the volume of H₂O the protein is lyophilized from (see Certificate of Analysis) to the vial of lyophilized powder. Rotate vial gently until solid dissolves.
Reconstituted MTG solution might be turbid. However, MTG activity is not affected. In this case, centrifuge the solution and collect the supernatant.
After reconstitution, the solution should be stored frozen in working aliquots.

Application  Labeling, immobilisation, conjugation and modification of proteins.

MTG can tolerate up to 10% DMSO in aqueous solutions without significant influence on its catalytic activity. A small activity loss of 4% was observed in the presence of 20% DMSO.

Storage  Store at –20°C in working aliquots. Repeated freezing and thawing is not recommended.

Delivery is possible at ambient temperature

Related products  Z009  ZediXclusive Microbial Transglutaminase Assay Kit
- A019  Polyclonal antibody to bacterial (microbial) transglutaminase
- A020  Polyclonal antibody to bacterial protransglutaminase (pro-BTG, pro-MTG)
- A024  Monoclonal Antibody to bacterial (microbial) Transglutaminase
- C001  Z-Gln-Gly-OH
- C002  Z-Gln-Gly-CAD-DNS

References  Grossowicz et al., J. Biol. Chem. 1950, 187, 111-25
- Kaufmann et al., Food Addit. Contam Part. A 2012, 29, 1364-73
- Dennler et al., Bioconjugate Chem. 2014, 25, 569-78
- Dennler et al., Chembiochem. 2015, 16:861-7

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