

Product Data Sheet



Product number: **A143, A144**

Revision number: **RN2.2**

Product Name Monoclonal antibody to microbial transglutaminase
Host Mouse
Immunogen Microbial Pro-transglutaminase from *Streptomyces mobaraensis*, recombinantly produced in *E. coli* (Zedira product No. T016)

Product number	A143	A144
Clone	XM67	XM68
Specificity	Microbial transglutaminase*	Microbial transglutaminase*
Subtype	IgG1	IgG2a
Suitable for Western Blot	✓	✓
Suitable for ELISA	✓	✓
Recommendation for Sandwich ELISA	Capture antibody	Detection antibody

*antibody binds the mature transglutaminase and the inactive zymogen (proenzyme).

⇒ The epitope is on the mature part of the enzyme.

Description The IgG fraction was purified by ion exchange chromatography.
Formulation 75 mM NaCl, 5 mM Tris, pH7.5, 0.025% sodium azide, 50% glycerol.
Appearance liquid
Application Western-Blotting, Immunofluorescence
Working dilutions Optimal dilutions should be determined by the end user.
E.g. for Western-Blotting or ELISA: 1 / 500 to 1 / 5,000 should be suitable
Storage Store at -80°C.
If storage at -80°C is not possible, storage at ≤ -20°C is recommended.
Stable for short term at +4°C.

Delivery is possible at ambient temperature.

Related products T300: Andracon® – Recombinant Microbial Transglutaminase
T255: Microbial transglutaminase with C-terminal His₆-Tag
C102: MTG-Blocker
Z009: ZediXclusive Microbial Transglutaminase Assay Kit
E021: Microbial Transglutaminase (MTG) ELISA
A145: Polyclonal antibody to microbial transglutaminase

Release date 05 August 2026

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

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Background info

Microbial transglutaminase (MTG or synonymous BTG for bacterial transglutaminase) was discovered by the Japanese companies Amano Enzyme® and Ajinomoto® in the late 1980ies by screening 5,000 microorganisms. The aim was the constant supply of a cheap and stable transglutaminase for food applications.

The microorganism *Streptomyces mobaraensis* (formerly known as *Streptoverticillium mobaraense*) turned out to produce a calcium independent transglutaminase with the desired properties. MTG is produced as an inactive proenzyme (zymogen) with a signal sequence for its secretion to the fermentation broth. Subsequently, proteolytic cleavage of the 45 amino acid propeptide with Proteases TAMP and TAP yields active MTG (Pasternack et al., Eur J Biochem. 1998; 257:570-6, Zotzel et al., Eur J Biochem. 2003; 270:4149-55., Zotzel et al., Eur J Biochem. 2003; 270:3214-22).

PreproMTG-sequence (P81453) of microbial transglutaminase from *Streptomyces mobaraensis*

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MRIRRRALVFATMSAVLCTAGFMPSAGEAAADNGAGEETKSYAETYRLTADDVANINALNESAPAASSA
GPSFRAPDSDDRVTTPAEPLDRMPDPYRPSYGRAETVVNNYIRKWQQVYSHRDGRKQQMTEEQREWLSY
GCVGVTWVNSGQYPTNRLAFASFDEDRFKNELKNGRPRSGETRAEFEGRVAKESFDEEKGFQRAREVAS
VMNRALENAHDESAYLDNLKKELANGNDALRNEDARSPFYALRNTPSFKERNNGNHDPSRMKAVIYSK
HFWSGQDRSSSADKRKYGDPDAFRPAPGTGLVDMSRDRNIPRSPTSPGEGFVNFYDYGWFGAQTEADADK
TVWTHGNHYHAPNGSLGAMHVYESKFRNWSEGYSDFDRGAYVITFIPKSWNTAPDKVKQGWPIVHVAT
AK
    
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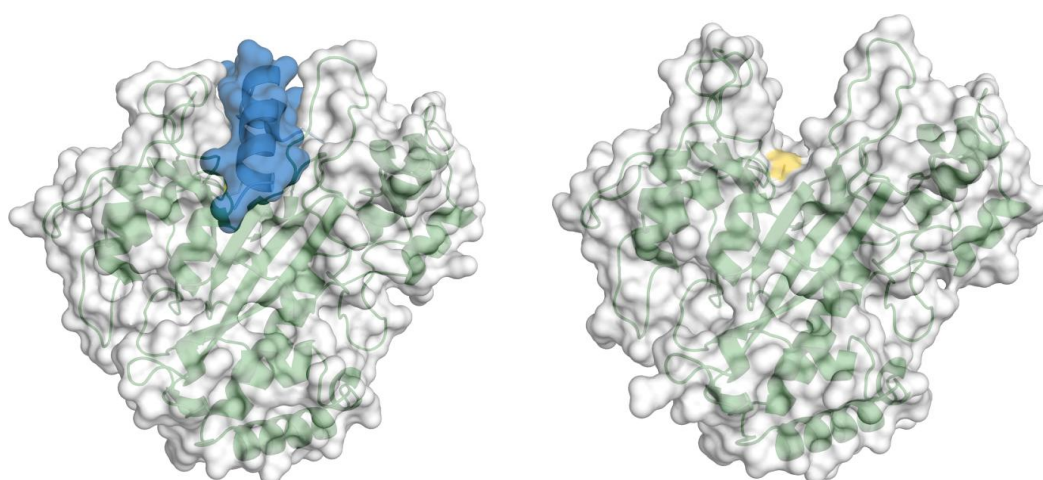
blue signal sequence

purple pro-peptide

green mature catalytically active MTG

↓ TAMP- and Dispase cleavage site

↓ TAP-cleavage site



Microbial Transglutaminase crystal structures. Left: Pro-Transglutaminase (PDB-ID: 3IU0, Yang et al., J Biol Chem. 2011; 286:7301-7). The propeptide is shown in blue. Right: active Transglutaminase (PDB-ID: 1IU4, Kashiwagi et al. J Biol Chem. 2002; 277:44252-60). Active site Cysteine is marked in yellow.