Product Data Sheet

Product number **T300**
Revision number RN2.0

Product Name Andracon® – Recombinant Microbial Transglutaminase

(HEPES-formulated, lyophilized)

Synonyms EC 2.3.2.13; Protein-glutamine-γ-glutamyltransferase

CAS number 80146-85-6

Background info Andracon® is a brand for high quality microbial transglutaminase:

- Recombinantly produced in *E. coli*
- Ultra-pure and highly active
- Batch to batch consistent quality
- License free
- Produced according to an SOP in an ISO9001:2015 certified environment

Andracon® (Microbial Transglutaminase, MTG) catalyzes the acyl transfer reaction between γ-carboxyamide groups of peptide-bound glutamine residues and a variety or primary amines.

Therefore, Andracon® can be used to attach primary-amine coupled functional markers like biotin, fluorescent dyes, click chemistry reagents or cytotoxins to proteins, e.g. antibodies.

Essentially, Andracon® is used for the production of antibody drug conjugates (ADCs).

Characterization Andracon® is purified by a series of column chromatography steps. Final quality control includes a set of tests summarized below.

Parameter	Specification	Assay
Protein concentration	9-11 mg/mL	A280 (ε = 55,408 $L \cdot mol^{-1} \cdot cm^{-1}$)
Activity	> 270 U/mL	Microbial Transglutaminase Assay Kit, Zedira
Specific activity	> 30 U/mg	Microbial Transglutaminase Assay Kit, Zedira
Protein mass	38333.6 Da ± 1	HPLC-ESI-MS
Purity by AEX-HPLC	> 98%	Anion exchange-HPLC with UV detector
SDS-PAGE	Single band at ~38 kDa	12.5% SDS-PAGE, Coomassie stain
Host cell protein content	< 0.15 ng/U	*E. coli* HCP ELISA Kit, Cygnus Technologies
Host cell DNA content	< 0.12 ng/U	Quant-iT™ Pico Green® dsDNA, Invitrogen
Endotoxin content	< 0.004 EU/U	Endotoxins Ph. Eur. 2.6.14 c.E.
Sterility	No growth	Steritest™, Merck Millipore

Source Recombinantly produced in *E. coli*. Gene derived from *Streptomyces mobaraensis*.

TSE/BSE-Declaration The only material of animal origin within the MTG production process is lactose, used within the fermentation step. The lactose used is certified by the supplier to be TSE and BSE free. Lactose is not used in any further production or purification step. No other material of animal origin is used for MTG production and purification nor added to the product.

Formulation The purified transglutaminase is lyophilized from a solution in 50 mM HEPES pH 7.4.

Appearance White lyophilized solid.

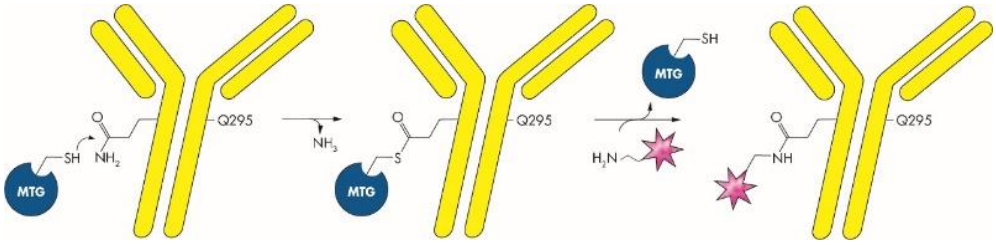
Reconstitution Add the volume of pure water the protein is lyophilized from (see Certificate of Analysis) to the vial of lyophilized powder. Rotate vial gently until solid dissolves.

Stability

Lyophilized and reconstituted Andracon® shows no activity loss when stored at -80°C and -20°C. Reconstituted Andracon® can be stored at +6°C for at least 4 weeks without activity loss. Andracon® is not susceptible to freeze-thawing, shown for ten freeze-thaw cycles.

Application

Labeling, immobilisation, conjugation, and modification of proteins.



MTG reaction pathway for labeling of (deglycosylated) antibodies. Antibody heavy chains are conjugated with a drug (linked to a primary amine) by MTG on position Q295, resulting in an ADC with site specifically conjugated drug molecules. Here, conjugation of only one Q295 is shown.

Storage

Store at -80°C. Upon reconstitution, store working aliquots undiluted.
If storage at -80°C is not possible, storage at ≤ -20°C is recommended.

Delivery is possible at ambient temperature. Stability of lyophilized Andracon® is given for at least 4 weeks at up to 37 °C.

Related products

T250	Andracon® – Recombinant Microbial Transglutaminase (HEPES-formulated, (frozen) liquid)
Z009	ZediXclusive Microbial Transglutaminase Assay Kit
A145	Polyclonal Antibody to Microbial Transglutaminase
A143	Monoclonal Antibody to Microbial Transglutaminase (clone XM67)

See Zedira's MTG Handbook or Zedira's homepage for special substrates and further products.

References

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Release date

10 June 2024

NOTE

Always obtain, read, and observe the material safety data sheet (MSDS) precautions prior to handling or using this product.

No testing has been conducted to determine the suitability of this product for use in or on humans or animals or for in vitro diagnostic applications (e.g., in or as food, consumer goods, feed materials, cosmetics, medicinal products, medical devices). Thus, this product is not approved for any such use. If any such use of this product is intended by customer, customer will be solely responsible to obtain any necessary approvals and to meet any other requirements under applicable laws and regulations associated with such intended use.