

# PRODUCT INFORMATION SUMMARY

# WHAT IS TRANSGLUTAMINASE (TG)?



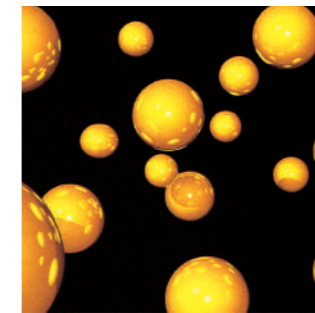
## TRANSGLUTAMINASE IS AN ENZYME.

Transglutaminase (TG) is an enzyme that catalyses the polymerisation and crosslinking of proteins. For the first time in the world, **AJINOMOTO** had succeeded in creating a method for the mass production and commercialisation of this highly functional enzyme and has been demonstrating its wide application in various food processes.

### EFFECT

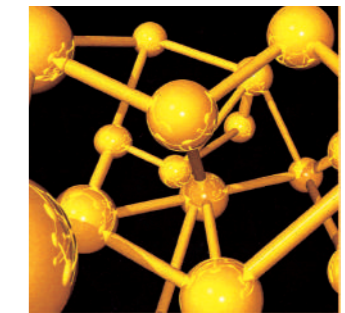
Improves the physical properties of food, such as firmness and elasticity.

### Model of TG reaction



Protein molecules

TG  
→



Cross-linked proteins

## Product Summary

<b>Product</b>	<b>ACTIVA™ TG-NS-MH</b>
<b>Ingredients</b>	Trisodium Phosphate, Potato Starch, Dextrin, Transglutaminase and Palm Oil.
<b>Shelf Life (Tentative)</b>	<b>18 MONTHS WHEN STORED IN COOL, DRY PLACE IN THE ORIGINAL PACKAGING</b>
<b>Packaging Size</b>	1kg X 10pkts / Carton Box

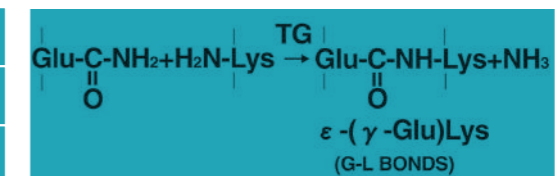
### FUNCTION

Forms crosslinks (  $\epsilon$ -( $\gamma$ -Glu)Lys ) between glutamine and lysine residues in proteins.

### Enzymic characteristics of TG

Optimum pH	6~7
pH stability	5~9
Optimum temperature	55°C

### Reaction catalysed by TG



## Product Specification

<b>ACTIVA™ TG Preparation</b>	<b>ACTIVA™ TG-NS-MH</b>
No Analysis Items	
1 Total Plate Count	Max. 3.0 x 10 <sup>3</sup> c/g
2 Heat Resistance Bacteria	Max. 5.0 x 10 <sup>2</sup> c/g
3 E. Coli	Negative
4 Loss on Drying	Max. 4.0%

## QUESTIONS & ANSWERS

### Q.1 What contains TG? And do general foods contain G-L bonds?

A.1 TG is widely distributed in the natural world. It is found in animals, such as humans and cows, as well as fish and plants such as peas. Furthermore, the crosslinks formed by TG are widely contained in ordinary foods. Thus, people have been eating food with G-L bonds for a long time.

### Q.2 How is TG manufactured?

A.2 Same as soya sauce, TG is made by means of a fermentation process, whereby starch and other raw materials are used. When fermentation process is completed, all transglutaminase-producing microorganisms are completely removed.

### Q.3 How about safety?

A.3 TG is safe. Its safeness has been firmly established in a variety of tests.

### Q.4 Will the nutritional value of the food be lost?

A.4 Nutritional value will not be lost. The cross-linked proteins have no adverse effect and can be readily absorbed by the body.