

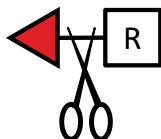
**Thermophilic Fucosidase contents**

Catalog #	Description	Size	M. W.	Purity	pH	Storage
GE0601	Thermophilic Fucosidase	200 units, lyophilized	55,500	> 95%	7.5 optimal	-20°C, up to 9 months
BA0801	10X Reaction Buffer 4	1 mL			7.5	4 to 25°C

*This product is for research use only and not for resale or for any use in the manufacture of a therapeutic or for any diagnostic purpose.*

**Product description:** This product is a recombinant  $\alpha$ -L-fucosidase (glycosyl hydrolase family GH29, EC #3.2.1.51) cloned from *Thermotoga maritima*, a hyperthermophilic bacterium, and expressed in *Escherichia coli* with an N-terminal 8xHis-tag. The 8xHis tag may be removed by digestion with FasTEV™ (Cat #GE0501), a TEV protease with enhanced stability and catalytic activity.

Thermophilic Fucosidase is active at a wide range of temperatures (37 to 97°C), with an optimum of 70°C or higher. The specificity of Thermophilic Fucosidase depends on linkage type and glycan substructure. At 37°C, it primarily releases  $\alpha$ 1,2-linked fucose. At 70°C, it preferentially cleaves  $\text{Fuca}\alpha 1,2 > \text{Fuca}\alpha 1,3 \approx \text{Fuca}\alpha 1,4 \approx \text{Fuca}\alpha 1,6$  linkages.



This product does not contain any detectable activities of proteases or other glycosidases.

**Unit definition:** One unit is defined as the amount of Thermophilic Fucosidase required to catalyze the release of 1 nmole *p*-nitrophenol (pNP) from *p*-nitrophenyl- $\alpha$ -L-fucopyranoside (pNP-Fuc) per min at 37°C in 100  $\mu$ L 1X Reaction Buffer 4 (50 mM Tris-HCl, 100 mM NaCl, pH 7.5).

**Product reconstitution:** Dissolve the lyophilized product in 100  $\mu$ L of molecular grade water to make a 2,000 units/mL (Cat #GE0601) solution in 1X Reaction Buffer 4. Once reconstituted, store the enzyme at -20 to 4°C for up to 1 month. Aliquoting is recommended to avoid repeated freeze-thaw cycles.

**Activity assay:** One unit of enzyme is added to 100  $\mu$ L of 500  $\mu$ M pNP-Fuc in 1X Reaction Buffer 4 at 37°C, followed by real-time measurements of absorption at 405 nm every 10 s for 120 s.

**Reference:** Sulzenbacher G, et al. J Biol Chem. 2004 Mar 26;279(13):13119-28. PMID: 14715651.