



### Endo F1 (Endoglycosidase F1)

Endo F1, Endoglycosidase F1, endo-beta-N-acetylglucosaminidase F1

### Source

recombinant gene from *Elizabethkingia miricola* in *E. Coli*

### Catalog Numbers

E-EF01	60 µl
E-EF01-20	20 µl
E-EF01-200	200 µl

EC 3.2.1.96

### Recommended Reagents

included with E-EF01 and E-EF01-20:

- 1 vial: 5x Reaction Buffer
- 250 mM sodium phosphate, pH5.5

Activity  $\geq$  17 U/ml

Specific Activity  $\geq$  16 U/mg

Molecular Weight 32 kD

### Specific Activity

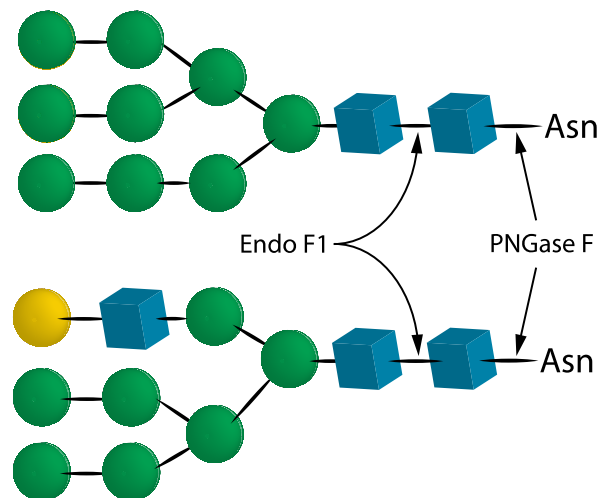
Defined as the amount of enzyme required to catalyze the release of N-linked oligosaccharides from 1 micromole of denatured Ribonuclease B (RNase B) in 1 minute at 37°C, pH 5.5. Cleavage is monitored by SDS-PAGE (cleaved RNase B migrates faster).

### Formulation

The enzyme is provided as a sterile-filtered solution in 20 mM Tris-HCl, pH 7.5

### Storage

Store enzyme at 4°C. Do not freeze.



### Stability

Several days exposure to ambient temperatures will not reduce activity. Stable at least 12 months when stored properly.

### Specificity

QA-Bio™ Endo F1 cleaves Asparagine-linked high mannose or hybrid oligosaccharides. It cleaves between the two N-acetylglucosamine residues in the diacetylchitobiose core of the oligosaccharide, generating a truncated sugar molecule with one N-acetylglucosamine residue remaining on the asparagine. In contrast, PNGase F removes the oligosaccharide intact.

### Quality & Purity

QA-Bio Endo F1 is tested for contaminating protease as follows: 10 µg of denatured BSA is incubated at 37°C for 24 hours with 2 µl of enzyme. SDS-PAGE analysis of the treated BSA shows no evidence of degradation.

The production host strain has been extensively tested and does not produce any detectable glycosidases.

**Directions for use**

1. Add up to 200 µg of glycoprotein to an Eppendorf tube. Adjust to 38 µl final volume with de-ionized water.
2. Add 10 µl 5x Reaction Buffer 5.5
3. Add 2.0 µl of Endo F1 to the reaction. Incubate 1 hour or more at 37°C.

Monitor cleavage by SDS-PAGE.

**References:**

Maley P., R. B. Trimble, A. L. Tarentino and T. H. Plummer Jr. Characterization of glycoproteins and their associated oligosaccharides through the use of endoglycosidases. **Anal Biochem** **180**:195-204 (1989).

Plummer, T. H. Jr, A. W. Phelan and A. L. Tarentino. Porcine fibrinogen glycopeptides: substrates for detecting endo- $\beta$ -N-acetylglucosaminidases F2 and F3. **Anal Biochem** **235**:98-101 (1996).

Reddy A., B. G. Grimwood, T. H. Plummer Jr and A. L. Tarentino. High-level expression of the Endo- $\beta$ -N-acetylglucosaminidase F2 gene in E.coli: one step purification to homogeneity. **Glycobiology** **8**:633-636 (1998).

Tarentino, A. L., C. M. Gomez and T. H. Plummer Jr. Deglycosylation of Asparagine-Linked Glycans by Peptide:N-Glycosidase F. **Biochemistry** **24**:4665-4671 (1985).

Tarentino A. L., G. Quinones, W. P. Schrader, L. M. Changchien and T. H. Plummer Jr. Multiple endoglycosidase (Endo) F activities expressed by *Flavobacterium meningosepticum*. Endo F1: molecular cloning, primary sequence, and structural relationship to Endo H. **J Biol Chem** **267**:3868-3872 (1992).

Tarentino A. L., G. Quinones, L. M. Changchien, and T. H. Plummer Jr. Multiple endoglycosidase F activities expressed by *Flavobacterium meningosepticum* endoglycosidases F2 and F3: Molecular cloning, primary sequence, and enzyme expression. **J Biol Chem** **268**(13):9702-9708 (1993).

Tarentino A. L. and T. H. Plummer Jr. Substrate specificity of *Flavobacterium meningosepticum*: Endo F2 and endo F3: purity is the name of the game. **Glycobiology** **4**:771-773 (1994).

Tarentino, A. L. and T. H. Plummer Jr. Enzymatic deglycosylation of asparagine-linked glycans: purification, properties and specificity of oligosaccharidecleaving enzymes from *Flavobacterium meningosepticum*. **Methods in Enzymology** **230**:44-57 (1994).

Tarentino A. L., G. Quinones and T. H. Plummer Jr. Overexpression and purification of non-glycosylated recombinant endo- $\beta$ -N-acetylglucosaminidase F3. **Glycobiology** **5**:599-601 (1995).

Trimble, R. B. and A. L. Tarentino. Identification of Distinct Endoglycosidase (Endo) Activities in *Flavobacterium meningosepticum*: Endo F1, Endo F2 and Endo F3. **J. Biol Chem** **266**:1646-1651 (1991)

**Warranties and liabilities**

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This product is intended for *in vitro* research only.

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