

α-FUCOSIDASE (*Thermotoga maritima*) (Lot 100402A)

Recombinant

E-FUCTM

03/22

EC: 3.2.1.51

Synonyms: alpha-L-fucosidase; alpha-L-fucoside fucohydrolase

CAZy Family: GH29

CAS: 9037-65-4

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 54,351)
- One major band on isoelectric focusing (pI ~ 6.1)

2. SPECIFIC ACTIVITY:

2.6 U/mg protein at pH 5.0 and 25°C

- ~ 4.2 U/mg protein (37°C);
- ~ 15.0 U/mg protein (60°C);
- ~ 195 U/mg protein (95°C)

One Unit of α-fucosidase activity is defined as the amount of enzyme required to release one μmole of *p*-nitrophenol (*p*NP) per minute from *p*-nitrophenyl-α-L-fucopyranoside (0.476 mM) in citrate (50 mM)/phosphate (100 mM) buffer, pH 5.0 at the temperatures indicated.

3. OTHER ACTIVITIES (as a percentage of α-fucosidase activity):

Enzyme Measured	Substrate	Activity, %
α-Fucosidase	<i>p</i> NP-α-L-fucopyranoside	100
β-N-Acetylglucosaminidase	<i>p</i> NP-N-acetyl-β-D-glucosaminide	< 0.0004
α-D-Galactosidase	<i>p</i> NP-α-D-galactoside	< 0.0001
β-D-Galactosidase	<i>p</i> NP-β-D-galactoside	< 0.0002
β-D-Glucosidase	<i>p</i> NP-β-D-glucoside	< 0.0001
α-D-Mannosidase	<i>p</i> NP-α-D-mannoside	< 0.0001
β-D-Mannosidase	<i>p</i> NP-β-D-mannoside	< 0.0001
β-D-Xylosidase	<i>p</i> NP-β-D-xyloside	~ 0.0007
Protease	Protazyme	u.d.*

Action on *p*NP-substrates was determined at a final substrate concentration of 4 mM in citrate (50 mM)/phosphate (100 mM) buffer, pH 5.0 at 37°C.

* undetectable.

4. PHYSICOCHEMICAL PROPERTIES:

pH Optima: 5.0 (at 60°C)
pH Stability: 4.0-6.0 (20 h at 4°C)
Temperature Optima: 95°C
Temperature Stability: stable up to 100°C (15 min at pH 5.0)

5. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. **Swirl to mix the enzyme immediately prior to use.**