

α -(1-2,3,4,6)-L-FUCOSIDASE (*Homo sapiens*) (Lot 141002A)

Recombinant

E-FUCHS

05/22

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 ~ 52,000)
- One major band on isoelectric focusing (pI ~ 6.3)

2. SPECIFIC ACTIVITY:

3 U/mg protein (on pNP- α -L-fucopyranoside) at pH 4.0 and 25°C;

~ 14 U/mg protein (on pNP- α -L-fucopyranoside) at pH 4.0 and 37°C;

~ 41 U/mg protein (on pNP- α -L-fucopyranoside) at pH 4.0 and 50°C.

One Unit of α -L-fucosidase activity is defined as the amount of enzyme required to release one μ mole of *p*-nitrophenol (pNP) per minute from *p*-nitrophenyl- α -L-fucopyranoside (1 mM) in sodium acetate buffer (100 mM) at pH 4.0 at the temperatures indicated.

3. SPECIFICITY:

Broad specificity; hydrolysis of terminal non-reducing α -(1-2,3,4,6)-linked L-fucose residues from glycoproteins and oligosaccharides.

4. SUBSTRATES:

Substrate	Linkage
2-Fucosyllactose	α -1,2
3-Fucosyllactose	α -1,3
2-Acetamido-2-deoxy-4- <i>O</i> -(α -L-fucopyranosyl)-D-glucopyranose	α -1,4
2-Acetamido-2-deoxy-6- <i>O</i> -(α -L-fucopyranosyl)-D-glucopyranose	α -1,6

Action on di- and trisaccharides was determined at a final substrate concentration of 10 mg/mL in sodium acetate buffer (100 mM), pH 4.0 at 40°C. Hydrolysis of the substrates was detected by measuring α -L-fucose released using the Fucose Assay Kit (**K-FUCOSE**).

5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 3.0-4.0 and up to 60°C

pH Optima: 3.0-4.0

pH Stability: 4.0-9.0 (> 75% control activity after 24 hours at 4°C)

Temperature Optima: 50°C (10 min reaction)

Temperature Stability: < 45°C (pH 4.0, 15 min) up to 60°C

6. 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. For assay, this enzyme should be diluted in sodium acetate buffer (100 mM), pH 4.0 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**