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# ProductInformation

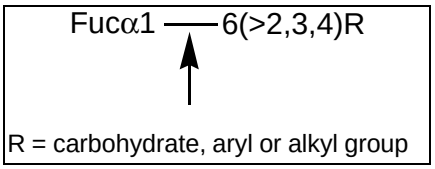
**α-L-Fucosidase**
**from bovine kidney**

Product Number **F 5884**
Storage Temperature 2–8 °C

CAS# 9037-65-4
EC 3.2.1.51
Synonym: α-L-Fucoside fucohydrolase

**Product Description**
One of the distinguishing features of the proteome in eurkaryotic cells is that most proteins are subject to post-translational modification, of which glycosylation is the most common form. It is estimated that more than half of all proteins are glycoproteins. Two major classes of oligosaccharides (glycans) may be attached to proteins. N-linked glycans are attached to the amide side chain of Asn residues, which form part of the consensus sequence AsnXaaSer/Thr, while O-linked glycans may be added to the hydroxyl side chain of Ser or Thr residues.

This product has broad substrate specificity, cleaving α-1→(2,3,4,6) linked fucose from N- and O-linked glycans. It cleaves α-1→6 linked fucose on the trimannosyl core of N-linked glycans more efficiently than other α-fucose linkages. The rate of cleavage is lower with increasing size and complexity of the glycan.




The enzyme is useful for the analysis of fucosylated N- and O-linked glycans using sequential digestion with exoglycosidases.[1,2,3] It has also been used in the analysis and modification of glycoconjugates, including blood group oligosaccharides[4] and glycolipids.[5]

Molecular weight: 210-220 kDa

pH optimum: 5.5 to 5.8

Inhibitors: heavy metal ions ($Ni^{2+}$, $Cu^{2+}$, $Hg^{2+}$, $Ag^{+}$) and 4-chloromercuriphenylsulfonic acid
α-L-Fucosidase is isolated from bovine kidneys by homogenization and ammonium sulfate precipitation, and purified by chromatographic techniques.
The enzyme is supplied as a suspension in 3.2 M ammonium sulfate containing 10 mM sodium phosphate, monobasic and 10 mM citrate, pH 6.0.

Specific activity: ≥2 units per mg protein (Biuret)

Unit Definition: One unit will hydrolyze 1 μmole of p-nitrophenyl α-L-fucoside to p-nitrophenol and L-fucose per minute at pH 5.5 at 25 °C.

Each lot of enzyme is tested for contaminating exoglycosidase activity and contains:
≤0.2% β-N-acetylglucosaminidase and
≤0.1% of α-mannosidase and β-galactosidase activities.

**Precautions and Disclaimer**
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

**Storage/Stability**
It is recommended to store the product at 2–8 °C.

**Procedure**
For digestion of isolated glycans or glycoconjugates, use a substrate concentration of 20–40 μM in buffer, pH 5-6, and an enzyme concentration of 0.5–1 units/ml. Incubate for 16–24 hours at 37 °C.

## References


1. Parekh, R.B., *et al*., EMBO J., **6**, 1233 (1987).
2. Edge, C.J., *et al*., Proc. Nat. Acad. Sci. (USA)., **89**, 6638 (1992).
3. Prime, S., *et al*., J. Chromatog., **720**, 263 (1996).
4. Clausen, H., *et al*., Biochem., **25**, 7075 (1986).
5. Abe, K., *et al*., J. Biol. Chem., **258**, 11793 (1983).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