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Product Information

Ficin from fig tree latex

Product Number **F 8629**
Storage Temperature -0 °C

Product Description

Enzyme Commission (EC) Number: 3.4.22.3
CAS Number: 9001-33-6
Molecular Weight: 23.8 kDa¹
Extinction Coefficient: $E^{1\%} = 21.0$ (280 nm)²
pI: 9.0²
This product has been deleted and replaced with
F 4165.

Ficin is classified as a thiol protease. It contains a single reactive cysteine at its active site. The amino acid homology of the active site is similar to that of papain. Ficin will cleave proteins at the carboxyl side of Gly, Ser, Thr, Met, Lys, Arg, Tyr, Ala, Asn, and Val. The reported K_M for the chromogenic substrate pGlu-Phe-Leu-p-nitroanilide is 0.43 mM.³ Ficin is inhibited by iodoacetamide, iodoacetic acid, N-ethylmaleimide, mercuric chloride, DFP (diisopropyl fluorophosphate), TLCK (N α -p-Tosyl-lysine chloromethyl ketone), and TPCK (N-Tosyl-L-phenylalanine chloromethyl ketone).^{1,2} Ficin can be used to generate high yielding F (ab')₂ fragments from mouse IgG1.⁴

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This enzyme is soluble in 1.0 M potassium phosphate buffer, pH 7.0 (0.69 mg/ml), yielding a clear solution.

References

1. Glazer, A. N., and Smith, E. L., in *The Enzymes*, 3rd ed., vol. III, Boyer, P. D., ed., Academic Press (New York, NY: 1971), pp. 538-542.
2. Liener, I. E., and Friedenson, B., *Ficin. Meth. Enzymol.*, **19**, 261-273 (1970).
3. Filippova, I. Y., et al., L-Pyroglutamyl-L-phenylalanyl-L-leucine-p-nitroanilide-a chromogenic substrate for thiol proteinase assay. *Anal. Biochem.*, **143(2)**, 293-297 (1984).
4. Mariani, M., et al., A new enzymatic method to obtain high yield F (ab') mouse IgG1. *Mol. Immunol.*, **28**, 69-77 (1991).

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