

Papain

Product Information

Cat#	DIA-491
Source	Papaya
Description	Papain is a cysteine protease derived from papaya latex with broad proteolytic activity. It efficiently cleaves peptide bonds in a wide range of proteins and is commonly used for protein digestion, tissue dissociation, and antibody fragment preparation. Due to its mild reaction conditions and controllable activity, papain is suitable for applications in protein chemistry, cell biology, and pharmaceutical research, as well as in food and industrial processes.
pH Stability	5.5–7.5
Thermal stability	37–60 °C
Inhibitors	Hg ²⁺ , other heavy metals, iodoacetic acid, N-p-tolylmaleimide
Unit Definition	One unit is defined as the amount of enzyme that releases peptides equivalent to 1 µg of tyrosine from a casein substrate in 1 min at 37 °C and pH 7.0, expressed as U/g (or U/mL).
Storage	2–8 °C
Synonyms	Papaya protease; papaya enzyme
Applications	A proteolytic enzyme capable of hydrolyzing polypeptides, amides, and esters. The molecule consists of a folded polypeptide chain of 212 amino acid residues. Slightly hygroscopic and light-sensitive. Partially soluble in water and glycerol; nearly insoluble in most organic solvents.
Appearance	Milky white to pale yellow powder
Molecular Weight	21000–23000 Da
Concentration	800 U/mg
Package	25 g/100 g/500 g/1 kg
Specificity	Cleavage at Arg-, Lys-, Phe-, and X-amino acid residues.