

## Papain

### Product Information

<b>Cat#</b>	DIA-491
<b>Source</b>	Papaya
<b>Description</b>	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.
<b>pH Stability</b>	5.5–7.5
<b>Thermal stability</b>	37–60 °C
<b>Inhibitors</b>	Hg <sup>2+</sup> , other heavy metals, iodoacetic acid, N-p-tolylmaleimide
<b>Unit Definition</b>	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).
<b>Storage</b>	2–8 °C
<b>Synonyms</b>	Papaya protease; papaya enzyme
<b>Applications</b>	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.
<b>Appearance</b>	Milky white to pale yellow powder
<b>Molecular Weight</b>	21000–23000 Da
<b>Concentration</b>	800 U/mg
<b>Package</b>	25 g/100 g/500 g/1 kg
<b>Specificity</b>	Cleavage at Arg-, Lys-, Phe-, and X-amino acid residues.