



## PAPAIN from *Carica papaya* (Lot 200101)

**Non-recombinant**

**E-PAPN-10ML**

EC: 3.4.22.2

CAS: 9001-73-4

04/20

### PROPERTIES

#### 1. PURITY:

- Highly purified by chromatography.
- Single major band on SDS-PAGE (MW = 23,000 Da); minor bands at MW ~ 21,000 and 17,000.
- Single major band on isoelectric focusing (pI 8.8); minor band at pI 9.3.

#### 2. SPECIFIC ACTIVITY:

~ 9 tyrosine-equivalent Units/mg on *N,N*-dimethylcasein.  
(this compares to a value of 7.7 U/mg on *N,N*-dimethylcasein for Sigma crystalline papain P-3125-50 MG; reported as > 16 U/mg on BAEE substrate).

**One Unit** of activity is the amount of enzyme that will produce one  $\mu$ mole (181  $\mu$ g) of tyrosine equivalents from *N,N*-dimethylcasein per minute at pH 7.0 and 40°C (colour determined using the Folin-Ciocalteu reagent). Routine assays were performed with Azo-Casein (Megazyme cat. no. S-AZCAS) in sodium phosphate buffer (100 mM, pH 7).

#### 3. SPECIFICITY:

Devoid of  $\alpha$ -amylase,  $\beta$ -glucanase (cellulase), *endo*-1,4- $\beta$ -xylanase and polygalacturonanase (determined by incubating high levels of the enzyme with pure polysaccharides in highly sensitive viscometric assays).

#### 4. PHYSICOCHEMICAL PROPERTIES:

pH Optima:	6.0-7.0
pH Stability:	5.0-8.0
Temperature Optima:	65°C
Temperature Stability:	< 60°C

#### 5. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate solution stabilised with 0.02% w/v sodium azide and should be stored at 4°C.

Stable at 4°C for ~ 4 years.

The concentration of enzyme as supplied is 30 mg/mL (i.e. 275 U/mL) at 40°C.

This enzyme is recommended for use in all applications requiring pure papain.