

## Elastase, Enzyme Activity

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Catalog	Unit
TBP0067-1MG	1 mg
TBP0067-5MG	5 mg

### Product Details

Form: Freeze-dried powder

Solubility: Distilled water or dilute buffer

Stability: Store at -20° C (-4° F)

Activity: 10 U/mg protein

Protein: 90%

### Unit Definition

The amount of enzyme which hydrolyzes one micromole of SucAla3Na per minute at 25°C, pH 8.0.

### Assay Method

The assay method is described by Feinstein, et al.

### Applications

Elastase (EC 3.4.21.36) is a unique proteolytic enzyme in mammals because of its ability to hydrolyze the insoluble protein elastin. In addition, it also exhibits endopeptidase activity on other proteins. Elastase is produced in the pancreas and it also occurs in leukocytes and in the serum. It has been postulated that elastase activity may play role in the induction of atherosclerosis and acute hemorrhagic pancreatitis.

Elastase from porcine pancreas has been extensively studied. It has a molecular weight of 25,900. Elastase can be used for degradation of proteins and peptides.

### Reagents

1. 0.1 M Tris buffer, pH 8.0.
2. 0.0044 M SucAla3Na substrate dissolved in Tris buffer (2 mg/ml).
3. 0.15 NaCl

### Procedure

1. Set spectrophotometer (equipped with a strip chart recorder and temperature control) at 410 nm and 25°C.
2. Pipette into a cuvette:  
Tris Buffer 2.7 ml  
Diluted elastase 0.1 ml  
Mix and incubate in a shaker-bath at 37°C for 4-5 min.
3. To test cuvette add 0.2 ml of substrate, mix and record increase in A410 for 5 minutes.
4. Calculate (delta)A/min from the linear portion standard curve.

### Calculation

$$\text{Activity (U/mg)} = \frac{(\Delta A_{410\text{nm}/\text{min}})(\text{Total Vol.})(\text{Enz. Diln.})}{(8.8)(\text{mg Enz./ml})}$$

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