Native Tyrosinase, Enzyme Activity

Cat. No. Tyrosinase-39 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Native Tyrosinase, Enzyme Activity
Form	Freeze-dried
Solubility	Soluble in distilled water or dilute buffer
Bio-activity	2000 U/mg solid
Purity	0.9
Applications	Tyrosinase (polyphenol oxidase, catecholase) (EC 1.14.18.1) is a copper-containing oxidase which is widely distributed in plants, animals and man. It oxidizes tyrosine to the pigment melanin in mammals and causes the cut surfaces of many fruits and vegetables to darken (browning reactions). The enzyme from mushrooms has a molecular weight of 128,000. Hearing, et al, report the occurrence of four isozymes of tyrosinase in tissues of mice with malignant melanoma. This observation may have some clinical significance.
Pr centigradeedure	Set spectrophotometer (equipped with strip chart recorder and temperature control) at 25 centigrade and 280 nm. Into a quartz cuvette, pipette the following: Phosphate buffer 1.90 mL Tyrosine 1.00 mL Oxygenate this reaction mixture by bubbling oxygen into the cuvette through a capillary tube for 5 minutes.

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	Transfer cuvette to spectrophotometer and incubate for 5 minutes at 25 centigrade to attain temperature equilibration. Record absorbance at 280 nm to establish the blank rate, if any. Initiate the reaction by adding 0.1 mL of tyrosinase solution (200-400 U/mL) to the cuvette and record absorbance at 280 nm for 10 minutes. Determine μE280 nm/min from the linear portion of the curve.
Reagents	0.5 M Potassium phosphate buffer, pH 6.5. 0.001 M L-Tyrosine (0.181 mg/mL) in buffer. Tyrosinase (enzyme) solution. Prepare in distilled water to yield a final concentration of 200-400 U/mL. The enzyme solution must be prepared fresh immediately prior to assay.
Unit Definition	That amount of enzyme which causes an increase in extinction at 280 nm of 0.001 per minute at pH 6.5 and 25 centigrade.
Stability	At -20 centigrade.
Usage	Tyrosinase catalyzes the oxidation of tyrosine to O-quinone which results in an increase in the absorbance at 280 nm.

GENE INFORMATION

Official Symbol	Tyrosinase

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