Product Data Sheet

Product Name:	Urease
Cat. No.:	GP22394
Batch No.:	1

Product Data

Purity	>98%	Source	Escherichia Coli.
Phycical Appearance	solid	Shipping Condition	Shipped at Room temp.
Solubility	It is recommended to reconstitute the lyophilized Urease in sterile 18MΩ-cm H2O.		
Formulation	Each mg of protein contains 420μg Potassium Phosphate and 30μg EDTA Na2.		

Biological Activity

The activity was found to be 141U/mg powder.

Stability

Urease although stable at 4°C for 3 weeks, should be stored desiccated below -18°C . Please prevent freeze-thaw cycles.

Background

Urease (EC 3.5.1.5) is an enzyme that catalyzes the hydrolysis of urea into carbon dioxide and ammonia. The reaction occurs as follows: (NH2)2CO + H2O = CO2 + 2NH3. In 1926 James Sumner showed that urease is a protein. Urease is found in bacteria, yeast and several higher plants. Characteristics: Active site metal: nickel(II); Molecular weight: 480 kDa or 545 kDa for Jack Bean Urease (calculated mass from the amino acid sequence); Optimum pH: 7.4; Optimum Temperature: 60 degrees Celsius; Enzymatic specificity: urea; Inhibitors: heavy metals. The multi-subunit enzyme usually has a 3:3 (alpha:beta) stoichiometry with a 2-fold symmetric structure (note that the image above gives the structure of the asymmetric unit, one third of the true biological assembly). An exceptional urease is found in Helicobacter pylori, which combines four of the regular six subunit enzymes in an overall tetrahedral assembly of 24 subunits (a12b12). This supra-molecular assembly is thought to confer additional stability for the enzyme in this organism, which functions to produce ammonia in order to neutralise gastric acid. The

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

presence of urease is used in the diagnosis of Helicobacter species.

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