ALPHA DIAGNOSTIC INTERNATIONAL

Product Data Sheet

Cat # GOX-05 Glucose Oxidase (360 U/mg protein; 280 U/mg material), Aspergillus Niger **Size**: 1 mU

The glucose oxidase enzyme (GOx) (EC 1.1.3.4; CAS #9001-37-0; EINECS #232-601-0) binds to beta-D-glucose (an isomer of the six-carbon sugar glucose) and aids in breaking the sugar down into its metabolites. GOx is a dimeric protein (605-aa; protein accession #P13006; ~160 Kda wutg one tightly bound FAD per monomer, $K=1x10^{-10}$). Gox is glycosylated with a carbohydrate content of 16% (w/w). The carbohydrate moiety is designated as high mannose type with 80% (w/w) of the carbohydrate being mannose. The mannose is N and O glycosidically linked to Asn, Thr and Ser. The protein is readily soluble in 0.1M potassium phosphate pH 7.0 giving a clear, yellow solution. The molar extinction coefficient of a 1% (w/v) solution at 280 nm is 13.8. The enzyme shows a very high degree of specificity for b-D-glucose although 2-deoxy-D- glucose, D-mannose and D-fructose are also oxidised, albeit at a much-reduced rate. The native protein is acidic having an isoelectric point (pI) of 4.2.

Source: Aspergillus niger

Form: A freeze-dried material

Unit definition: That amount of enzyme causing the oxidation of one micromole of glucose per minute at 25°C and pH 7.0.

Specific activity: 360 U/mg protein (324-396 U/mg protein, approximately 280 U/mg material).

Solubility: Dissolves readily at 5mg/ml in 0.1M potassium phosphate buffer, pH 7.0, to give a clear, yellow solution.

Contaminants:

α-amylase: less than 0.05%
Saccharase: less than 0.5%
Maltase: less than 0.05%
GO/Cat ratio: **greater than 2,000**

Storage: Store desiccated at -15°C or below. Allow to come to room temperature before opening. Before returning to storage, re-desiccate under vacuum over silica gel for a minimum of four hours. Re-seal before returning to -15°C or below.

Stability: Stable for ~12 months.

For in vitro research use only

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