

Glucose oxidases

Glucose oxidase catalyzes the oxidation of β -D-glucose to D-gluconic acid and hydrogen peroxide. It is highly specific for β -D-glucose and does not act on α -D-glucose.

Its major use is in the determination of free glucose in body fluids^(1,2,3,4). Although specific for β -D-glucose, glucose oxidase can be used to measure total glucose, because as a result of the consumption of β -glucose, α -glucose from the equilibrium is converted to the β -form by mutarotation.

As many glucose assays measure the peroxide produced by the glucose oxidase reaction, it is important that the enzyme used for these assays has a low catalase content in order to avoid destruction of the peroxide and an underestimation of the glucose in the assay. We therefore give the ratio of glucose oxidase to catalase in our catalog entries, so that where necessary, a product with a suitably high ratio can be selected.

Apart from the measurement of glucose, glucose oxidase has also been used to label antibodies used in the detection of tumour marker antigens⁽⁵⁾ and viral antigens⁽⁶⁾.

References:

1. Kunst, A. et al. (1984) Methods of Enzymatic Analysis (Bergmeyer, H.U. ed.) 3rd. Ed., Vol. 6, p. 178-85
2. Heinz, F. & Beushausen, T.W. (1981) J. Clin. Chem. Clin. Biochem. **19**, 977-8
3. Auses, J.P. et al. (1975) Anal. Chem. **47**, 244-9
4. Williams, D.C. et al. (1976) Clin. Chem. **22**, 372-4
5. Rathlev, T. (1983) Protides Biol. Fluids **31**, 347-50
6. Porter, D.D. & Porter, H.G. (1984) J. Immunol. Methods **72**, 1-9

Product Name	Cat.No.*
Glucose oxidase from <i>Aspergillus niger</i> ca. 220 U/mg lyophil.	22739
Glucose oxidase from <i>Aspergillus niger</i> ca. 260 U/mg lyophil.	22778
Glucose oxidase from <i>Aspergillus niger</i> ca. 260 U/mg lyophil. (Low Catalase)	22780