AE0001_UG_EN_V2302

Sulfite oxidase molybdenum centre domain (EC 1.8.3.1), *Homo sapiens*

Catalogue number	Presentation
AE00011	2.25 U (0.9 mL)

Description

Sulfite oxidase (EC 1.8.3.1) is a homodimeric protein localized in the intermembrane space of mitochondria of all eukaryotic organisms. Each subunit contains an N-terminal domain, with a heme cofactor, and a C-terminal domain, with a molybdopterin cofactor (MoVI). The enzyme catalyzes the oxidation of sulfite to sulfate, which takes place at the molybdenum centre, and is the final reaction in the oxidative degradation of the sulfur amino acids cysteine and methionine. Sulfite oxidase deficiency results in neurological abnormalities which are often fatal at an early age. NZYtech`s sulfite oxidase comprises the recombinant molybdenum C-terminal domain of *Homo sapiens*. The enzyme is provided in 3.2 M ammonium sulphate. The enzyme specific activity, at 25 °C, is 0.5 U/mg (measured at pH 8.5, using sulfite as substrate at saturation concentrations). The enzyme exhibits an activity of around 100 units/mg of protein using ferricyanide as electron acceptor, as described by Temple et al. (2000; see below).

Purity

Sulfite oxidase has been determined to be >95% pure as according to SDS polyacrylamide gel electrophoresis followed by Coomassie Blue staining (Figure 1).

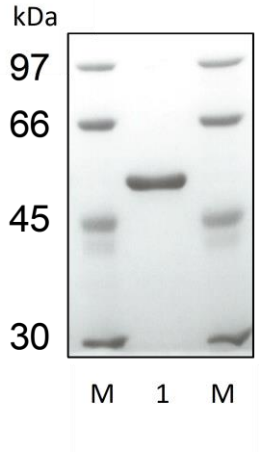

Figure 1. SDS-PAGE analysis of sulfite oxidase. Electrophoresis was performed using a 10% polyacrylamide gel. Lane M, molecular weight marker; Lane 1, purified sulfite oxidase from *Homo sapiens*.

Storage temperature

Sulfite oxidase should be stored at 2°C to 8°C.

Temperature and pH optimum

The optimum pH and temperature are 8.5 and 25 °C, respectively.

Activity

2.5 U/mL

Unit Definition

One unit of sulfite oxidase activity is defined as the amount of enzyme required to oxidize 1.0 µmol of sulfite to sulfate, per min, in a mixture containing 0.26 M TEA, 0.24 mM NADH, 5 mM Sodium sulphite, NADH peroxidase (3 U/mL) at 25 °C and pH 8.5.

References

Temple et al. (2000) Archives of Biochemistry and Biophysics 383, 281-287.