Creative Enzymes®

NiFe-type cytoplasmic hydrogenase from Pyrococcus furiosus, recombinant

Cat. No. NATE-1691

Lot. No. (See product label)

Introduction

Description The [NiFe] hydrogenases contain a minimum of two subunits known as the small (S) and large (L) subunits. The small subunit contains three iron-sulfur clusters while the large subunit contains the active site, a nickel-iron center which is connected to the solvent by a molecular tunnel. To date, periplasmic, cytoplasmic, and membrane-bound hydrogenases have been found. [NiFe] hydrogenases are known to be deactivated by molecular oxygen (O2). The [NiFe] hydrogenase of Pyrococcus furiosus is heterotetrameric wherein the additional two subunits allow the enzyme to use NAD(P)(H) as an electron carrier.

Synonyms Cytoplasmic [NiFe]-Hydrogenase; OE-SHI; Cytoplasmic Hydrogenase; NiFe-type cytoplasmic hydrogenase; SHI; [NiFe] hydrogenase

Product Information

Source Pyrococcus furiosus

Form Liquid

Formulation 1 mg/ml solution in 50 mM Tris-HCl, 100 mM NaCl, 5 mM DTT and 20% glycerol pH 8.0

Molecular Weight Predicted: 155 kDa, Size Exclusion: 149 kDa +/- 5 kDa

Purity > 90% by SDS-PAGE

Activity >100 U/mL

Concentration 1mg/ml

Thermal stability ambient to 100°C

Buffer 50 mM Tris, 2 mM DT, 300 mM NaCl, pH 8.2

Unit Definition One unit (U) is 1 µmole of H2 evolved min-1 mg-1.

Storage and Shipping Information

Storage This item is oxygen sensitive. Stable when stored sealed in strictly anaerobic environment (<10 ppm O2) at room temperature for up to 6 months. For long-term storage, protein can be flash frozen in nitrogen and stored at -80°C.