

welcome to



product specification
of

Catalase-Peroxidase of *Synechocystis PCC6803*

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0 Company Headquater

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1 General Product Information

Product name:	Catalase-Peroxidase of <i>Synechocystis</i> PCC6803
Description:	Bifunctional haem enzyme with catalase and peroxidase activity
Form:	Brown solid, lyophilized from 10 mM phosphate buffer, pH 7.0.
Solubility:	Reconstitution of 200 µg with 240 µl distilled water gives approximately 10 µM (per haem) Catalase-Peroxidase calculated with a molar extinction coefficient at 406 nm of 100 000 M ⁻¹ cm ⁻¹
Storage:	Stored below 0°C this lyophilized product is stable for years.
Source:	Overexpressed in <i>Escherichia coli</i> as soluble protein containing a hexahistidine tag and purified by metal chelate affinity chromatography and gel filtration.

**FOR RESEARCH ONLY!
NOT FOR HUMAN OR DRUG USE!**

EC Number:	1.11.1.7
Molecular weight:	~ 170 000 Da (Homodimer) (see MALDI-TOF Spectrum)
Purity:	> 99 %
Reinheitszahl:	$A_{406} / A_{280} > 0.55$ (see UV / VIS Spectrum)
Specific activity:	970 – 1000 units per mg (assay 1, catalase activity) 1.5 – 2.5 units per mg (assay 2, peroxidase activity)

2 Detailed Unit Definition

Assay 1 (Catalase activity):

One unit of catalase activity catalyzes the formation of 1 μmol of O_2 per minute at 30°C.

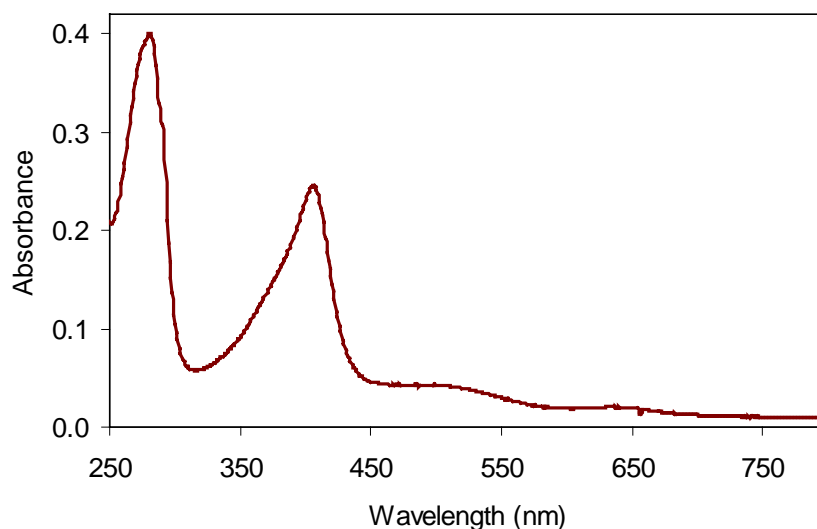
Total reaction volume:	5 ml
Final assay concentrations:	67 mM phosphate buffer, pH 7.0 5 mM hydrogen peroxide
References:	Rorth, M. and Jensen, P.K. (1967) Biochim. Biophys. Acta 139, 171-173

Assay 2 (Peroxidase activity):

One unit of peroxidase activity catalyzes the oxidation of 1 μmol of o-dianisidine per minute at 25°C.

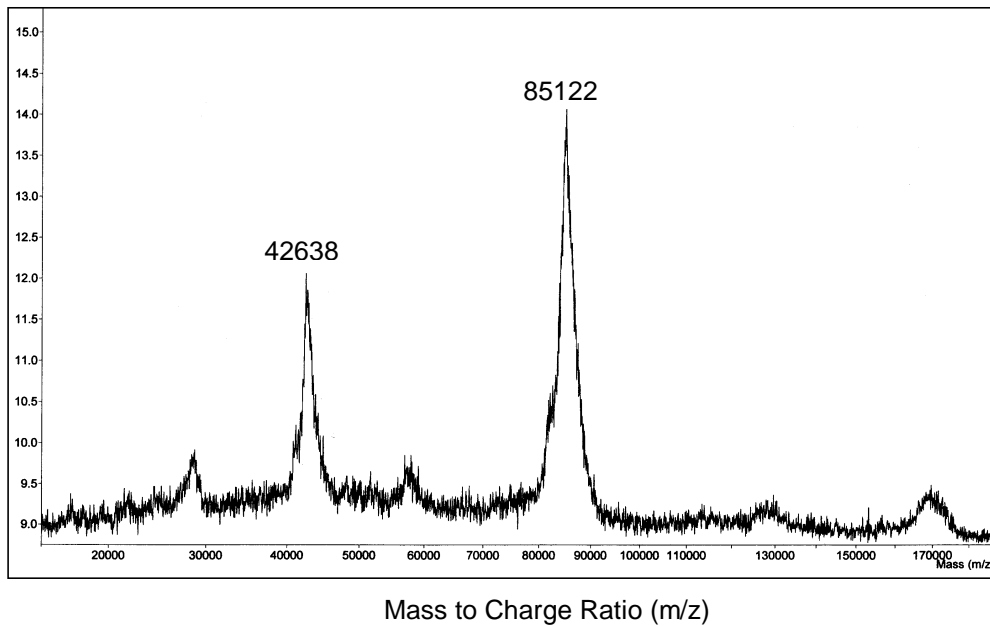
Total reaction volume:	1 ml
Final assay concentrations:	67 mM phosphate buffer, pH 7.0 1 mM hydrogen peroxide 1 mM o-dianisidine
References:	Mutsuda M., Ishikawa T., Takeda T. and Shigeoka S. (1996) Biochem J. 316: 251-257

3 UV / VIS Spectrum



UV/VIS spectrum of catalase-peroxidase in 10 mM phosphate buffer pH 7.0 recorded against distilled water on a diode-array spectrophotometer Zeiss Specord S-10

3 MALDI-TOF Spectrum



MALDI-TOF spectrum of catalase-peroxidase

The MALDI-TOF-MS (matrix assisted laser desorption ionization time-of-flight mass spectrometry) was carried out on a DYNAMO MALDI-TOF-MS (Thermo BioAnalysis, Santa Fe, New Mexico) with sinapinic acid matrix. Spectra were recorded in the dynamic extraction mode (setting 0.1) and calibrated externally using bovine serum albumin. The protein sample was mixed with a 1% solution of the matrix in 70% acetonitrile. 1 μ l of this mixture was deposited to a probe, air dried and inserted into the mass spectrometer to acquire a spectrum.