

Cytochrome c from equine heart

Product Number:	C8120
CAS Number :	9007-43-6
Storage Temperature:	-20°C
Synonym:	Ferricytochrome c (oxidized state)

Product Description

Cytochrome c is an electron-carrying mitochondrial protein. It is a heme protein containing a single polypeptide chain and a single heme group, which is covalently attached to Cys14 and Cys17. The ready fluctuation of cytochrome c within the cell between the ferrous and ferric states, makes it an efficient biological electron-transporter and it plays a vital role in cellular oxidations in both plants and animals. It is generally regarded as a universal catalyst of respiration, forming an essential electron-bridge between the respirable substrates and oxygen.

This cytochrome c product is prepared from equine heart using acetic acid by a modification of a published method. Alternatively, trichloroacetic acid may be used to prepare cytochrome c. The trichloroacetic acid method may reduce the amount of superoxide dismutase (SOD) present, but tends to cause dimerization or acid-modified structures of cytochrome c. In contrast, acetic acid preparations may have slightly higher amounts of SOD, but a lower proportion of dimeric cytochrome c.

The product is supplied as a lyophilized powder. The final step before lyophilization is extensive dialysis against 6 mM ammonium hydroxide, which is volatile under lyophilization conditions, so the final product should not contain any buffer salts. The product is mainly the oxidized form of the protein. The reduced form of cytochrome c can be prepared with either sodium dithionite or sodium ascorbate, followed by gel filtration.

Molecular mass: 12,384 Da

Isoelectric point (pI): range of 10.0 – 10.5

Spectral properties: λ_{max} = 550 nm (reduced form)

E^{mM} = 29.5 (reduced form, 0.1 M phosphate buffer, pH 6.8)

E^{mM} = 8.4 (oxidized form, 0.1 M phosphate buffer, pH 6.8)

Purity: $\geq 95\%$ (SDS-PAGE and spectral assay)

Preparation Instructions

Cytochrome c is soluble in water or buffered solutions at pH 7.0 \pm 1.0 (up to 200 mg/ml), yielding a clear, dark red solution. For general purposes reconstitution is done at 10 mg/ml.

Storage/Stability

Store cytochrome c at -20 °C. The product, as supplied, is stable for 5 years.

Recommended storage time for aqueous solutions: Storage at -20°C (freezer) – 6 months; Storage at 2-8°C (refrigerator) – 2 weeks; Storage at 20-25°C (ambient temperature) – 3 days.

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.