

## Product Information

### Cytochrome c from bovine heart

Catalog Number **C3131**

Storage Temperature  $-20^{\circ}\text{C}$

CAS RN 9007-43-6

#### Product Description

Molecular mass:<sup>1</sup> 12,327 Da (calculated)

pI:<sup>2</sup> 10.37–10.80

$\lambda_{\text{max}}$ : 550 nm (reduced)

Extinction coefficient:  $E^{\text{mM}} = 28.0$  (reduced)

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

This product is mainly the oxidized form of cytochrome c, often referred to as ferricytochrome c. Reduced cytochrome c can be prepared utilizing either sodium dithionite or sodium ascorbate, followed by gel filtration.<sup>3,4</sup>

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

#### Preparation Instructions

Cytochrome c is soluble in water (10 mg/ml), yielding a dark red to red brown solution.

Cytochrome c solutions can be prepared in 50 mM phosphate buffer at neutral pH. Solutions can be stored frozen as single-use aliquots at  $-20^{\circ}\text{C}$  for long term storage, or at  $2-8^{\circ}\text{C}$  for 1–2 weeks.

#### References

1. Nakashima, T. *et al.*, The amino acid sequence of bovine heart cytochrome c. *J. Biol. Chem.*, **241**(5), 1166-1177 (1966).
2. Righetti, P.G., and Caravaggio, T., Isoelectric points and molecular weights of proteins. *J. Chromatogr.*, **127**(11), 1-28 (1976).
3. Dixon, H.B., and McIntosh, R., Reduction of methaemoglobin in haemoglobin samples using gel filtration for continuous removal of reaction products. *Nature*, **213**(74), 399-400 (1967).
4. Errede, B. *et al.*, Preparation and properties of complex IV (ferrocycytochrome c:Oxygen Oxidoreductase EC 1.9.3.1). *Methods in Enzymology*, **53D**, 40-47 (1978).

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