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# ProductInformation

**Cytochrome c**
**from bovine heart**

Product Number **C 3131**
Storage Temperature -0 °C

## Product Description

CAS Number: 9007-43-6
Molecular Weight: 12.23 kDa[1]
pI: 10.37-10.80[2]
$\lambda_{max}$: 550 nm (reduced)
Extinction coefficient: $E^{mM}$ = 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 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 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. The preparation of reduced cytochrome c can be made utilizing either sodium dithionite or sodium ascorbate followed by gel filtration.[3,4]

## Precautions and Disclaimer

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

## 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 °C for long term storage or at 2-8 °C for approximately 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., J. Chromatography, **127**, 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 (ferrocytochrome c:Oxygen Oxidoreductase EC 1.9.3.1). Methods in Enzymology, **53D**, 40-47 (1978).

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