

## Product Information

### Azurin

from *Pseudomonas aeruginosa*

Catalog Number **A3672**

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

CAS RN 12284-43-4

### Product Description

Azurin is a 128 amino acid copper-containing beta-barrel protein isolated from *Pseudomonas aeruginosa*.<sup>1</sup> It belongs to the family of electron transfer proteins called cupredoxins. Although its physiological role is not precisely understood, it is proposed that the physiological role of azurin has to do with electron transfer during oxidative stress.<sup>2</sup> Initially it was proposed that azurin may act as an electron donor to nitrite reductase in the dissimilatory nitrate reduction pathway. Later studies indicated by knock-out strains of *P. aeruginosa* that cytochrome-c551 and not azurin is obligatory for electron donor to nitrite reductase.<sup>2</sup>

The energy-efficient redox capability of azurin is attributed to a compromise between the distorted tetrahedral geometry of copper(I) and the tetragonal geometry of copper(II). The induced rack and entatic-state theories have both been proposed to account for this type of imposed conformation.<sup>3,4</sup> The copper in azurin is coordinated by three main ligands: two histidines and a cysteine, plus a fourth ligand, methionine, and a fifth ligand, the carboxyl group of glycine.<sup>1,5</sup>

The product is supplied as a lyophilized powder containing ammonium acetate buffer salts with  $\geq 65\%$  protein.

### Precautions and Disclaimer

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

### Preparation Instructions

Reconstitute one vial with 1 ml of water.

### Storage/Stability

It is recommended to store the product desiccated at  $-20\text{ }^{\circ}\text{C}$ . A water solution (1 mg/ml) remains active for up to one week at  $4\text{ }^{\circ}\text{C}$ .

### References

1. Arvidsson, R.H., et. al., Eur. J. Biochem., **179**, 195-200 (1989).
2. Vijgenboom, et al., Microbiology, **143**, 2853-2863 (1997).
3. Malmstrom, B.G., Eur. J. Biochem., **223**, 711-718 (1994).
4. Williams, R.J.P., Eur. J. Biochem., **234**, 363-381 (1995).
5. Van de Kamp, M., et. al., Biochemistry, **31**, 10194-10207 (1992).

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