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Biochemical characterization of a thermostable cobalt- or copper-dependent polyphenol oxidase with dye decolorizing ability from *Geobacillus* sp. JS12

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Highlights

- • Recombinant GPPO is a homodecameric protein.
- • Cobalt or copper ion is essential for GPPO activity.
- • Cobalt is a more efficient cofactor for GPPO than copper.
- • GPPO containing cobalt or copper decolorizes Nile blue.

ABSTRACT

A putative laccase-like gene, *GPPO*, encoding a protein of 17.2 kDa and belonging to the multicopper oxidase family, was cloned and overexpressed in *Escherichia coli* cells. The