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Data Article

Optimal parameters for laccase-mediated destaining of Coomassie Brilliant Blue R-250-stained polyacrylamide gels

Jie Yang, Xiaodan Yang, Xiuyun Ye, Juan Lin *

Fujian Key Laboratory of Marine Enzyme Engineering, Fuzhou University, Fuzhou, Fujian 350116, China

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ABSTRACT

The data presented in this article are related to the research article entitled "Destaining of Coomassie Brilliant Blue R-250-stained polyacrylamide gels with fungal laccase" [1]. Laccase is a class of multicopper oxidases that can catalyze oxidation of recalcitrant dyestuffs. This article describes optimal parameters for destaining of polyacrylamide gels, stained with Coomassie Brilliant Blue R-250, with laccase from basidiomycete *Cerrena* sp. strain HYB07. Effects of laccase activity, mediator type and concentration, temperature and time on destaining of polyacrylamide gels were evaluated with respect to gel background intensity and protein band signals, and the optimal destaining effects were obtained with 15 U mL^{-1} laccase and 2 μM ABTS at 37 °C after 2 h.

Specifications table

Subject area	Biology
More specific subject area	Electrophoresis
Type of data	Figures
How data was acquired	Photography
Data format	Analyzed
Experimental factors	Crude laccase of *Cerrena* sp. HYB07 was used
Experimental features	CBBR-stained polyacrylamide gels were destained with laccase/ABTS

Abbreviations: ABTS, 2,2′-azino-bis (3-ethylbenzothiazoline-6-sulfonate); ACE, acetosyringone; BSA, bovine serum albumin; CBBR, Coomassie Brilliant Blue R-250; HBT, 1-hydroxybenzotriazole; SYA, syringic acid; SYD, syringaldehyde

* Corresponding Author. Tel. fax: 86 591 22866376.
E-mail address: ljuan@fzu.edu.cn (J. Lin).

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Data source location	Fuzhou University, Fuzhou, China
Data accessibility	Data accessibility

Value of the data

- Application of laccase in polyacrylamide gel destaining was described.
- This is the first report on parameter optimization of laccase-mediated destaining of polyacrylamide gels.
- The data provided application guidelines for other laccases to be used in polyacrylamide gel destaining.

1. Data

Here, we exemplified the application of laccase in destaining of CBBR-stained polyacrylamide gels by using laccase from *Cerrena* sp. HYB07 [2], and various parameters were evaluated based on gel

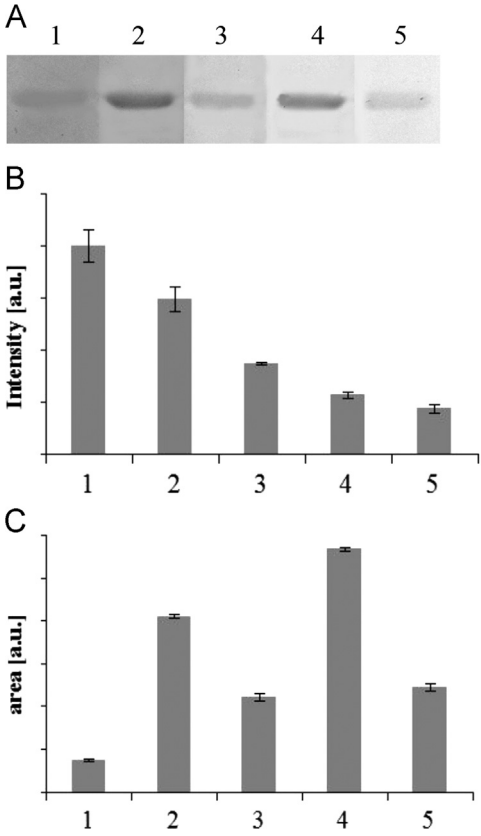

Fig. 1. Effect of mediators on laccase-mediated destaining of CBBR-stained polyacrylamide gels. Destaining of polyacrylamide gels was conducted at 25 °C with 20 U mL^{-1} laccase and a mediator for 2 h. Lanes 1–5 correspond to ACE (20 μM), SYA (20 μM), HBT (20 μM), ABTS (2 μM) and SYD (20 μM).