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Basic Study

Characterization of two **alkyl hydroperoxide reductase C** homologs **alkyl hydroperoxide reductase C_H1** and **alkyl hydroperoxide reductase C_H2** in *Bacillus subtilis*

Mee-Kyung Cha, Yoo-Jeen Bae, Kyu-Jeong Kim, Byung-Joon Park, Il-Han Kim

Abstract

AIM: **Alkyl hydroperoxide reductase subunit C (AhpC)** is responsible for the detoxification of reactive oxygen species in bacteria. We aimed to identify AhpC homologs in *Bacillus subtilis* and to characterize their structural and biochemical properties.

METHODS: Two AhpC homologs (AhpC_H1 and AhpC_H2) were identified by searching the *B. subtilis* database; these were then cloned and expressed in *Escherichia coli*. AhpC mutants carrying substitutions of catalytically important Cys residues (C37S, C47S, C166S, C37/47S, C37/166S, C47/166S, and C37/47/166S for AhpC_H1; C52S, C169S, and C52/169S for AhpC_H2) were obtained by site-directed mutagenesis and

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