

BnHO1, a haem oxygenase-1 gene from *Brassica napus*, is required for salinity and osmotic stress-induced lateral root formation. Zeyu Cao, Beibei Geng, Sheng Xu, Wei Xuan, Li Nie, Wenbiao Shen, Yongchao Liang and Rongzhan Guan

SUPPLEMENTARY DATA

Supplementary materials and methods

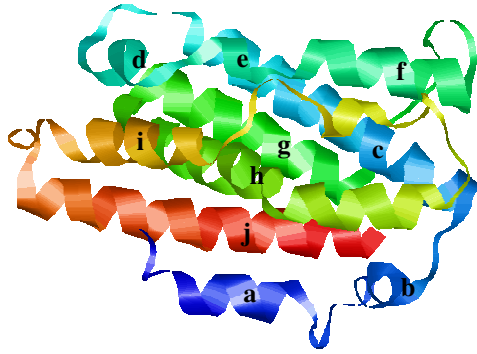
Modelling the structure of BnHO1

Secondary structure of mBnHO1 protein were predicted by PSIPRED software (<http://bioinf.cs.ucl.ac.uk/psipred>), and a three-dimensional structure of rapeseed HO was produced on the basis of the alignment of its amino acid sequence (minus the N-terminal transit sequence) according to the methods described by Linley et al (2006) with little modification. Homology model of mBnHO1 tertiary structure was predicted by the SWISS-MODEL software using the structural co-ordinates of human HO-1 (Schuller *et al.*, 1999) and rat HO-1 (Sugishima *et al.*, 2000). SWISS-MODEL Workspace is a web-based integrated service dedicated to protein structure homology modelling (Peitsch, 1995; Arnold *et al.*, 2006; Kiefer *et al.*, 2009), comprising protein structure modelling by satisfaction of spatial restraints derived from known structures with similar sequences to the target molecule.

References

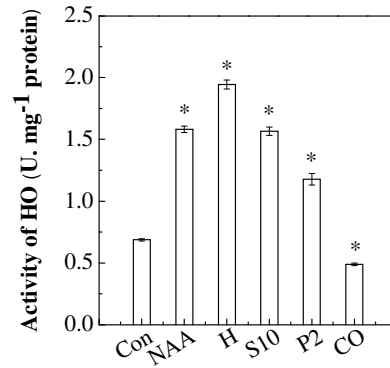
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Supplementary Figure S1. Tertiary structure of mature BnHO1 (mBnHO1) predicted by Swiss-Model software. Letters of a to j mean the numbers of α -helix from the N-terminus to the C-terminus. a: Phe20–Thr44, colored dark blue; b: Pro47–Ala53, colored blue; c: Val59–Gln82, colored light blue; d: Thr87–Phe91, colored bluish green; e: Thr94–Phe109, colored sea green; f: Ala121–Asp135, colored dark green; g: Pro138–Ser153, colored bright green; h: Arg157–Leu168, colored yellow green; i: Leu182–Lys195, colored brown; j: Arg202–Leu227, colored red.

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Supplementary Figure S2. Effects of NAA, haemin, NaCl, PEG, and CO on HO activity in rapeseed seedlings roots. Three-day-old rapeseed seedlings were treated with distilled water (Con), 100 nM NAA (NAA), 1 μ M haemin (H), 10 mM NaCl (S10), 2% PEG (P2), and 10% saturated CO aqueous solution for 6 h, respectively. Then HO activity in roots was determined. Data are the means \pm SE of at least three independent experiments. Bars with asterisks were significantly different with respect to Con at $P < 0.05$ level according to t -test.