

**C1****Physiological Roles of Erythroascorbate Peroxidase In *Candida albicans***

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Ascorbate peroxidase catalyze the oxidation of ascorbic acid through the reaction with hydrogen peroxide. Ascorbic acid are utilized as a substrate in oxidative stress. In *Candida albicans*, ascorbic acid is used as antioxidants, so called D-erythroascorbic acid (EASC). Oxidative stress change concentrations of EASC resulting in interaction with alternative oxidase (AOX). When the activity and gene expression of AOXs is increased, reactive oxygen species are increased. In *C. albicans*, EASC functions as an important antioxidant and activates cyanide-resistant respiration. When the activity and gene expression of EAPX are increased, cellular concentrations of EASC and H<sub>2</sub>O<sub>2</sub> are decreased. Therefore, EASC, EAPX and AOX may play an important role in the electron transfer in cellular level involving fluctuations in certain order of properties in *C. albicans*. In search of *EAPX1*, we have isolated and disrupted a gene encoding APX homolog which are obtained by polymerase chain reaction using primers based on *C. albicans* sequencing data. We investigated various physiological activities in *C. albicans*. As a result, We find that EAPX and EASC are related to oxidative stress in *C. albicans*.