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Article / Book Information

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NADPH oxidases (Nox) generate reactive oxygen species (ROS) such as superoxide anion radical (O_2^-) and hydrogen peroxide (H_2O_2). The pathogenic fungi *Candida albicans* and *C. glabrata* enhance cellular transglutaminase 2 (TG2) activity levels in co-incultured human hepatic cells in a ROS-mediated manner. Deletion of *NOX1* (*CgNOX1*) in *C. glabrata* blocks the ability of *C. glabrata* to induce TG2 activity. Here, we investigated whether other fungal Nox can induce TG2 activity in hepatic cells. In addition, overexpression of *YNO1*, a homolog of *CgNOX1*, in *Saccharomyces cerevisiae* led to induction of ROS generation and TG2 activity in hepatic cells in co-incubation experiments. These findings indicated that a fungal Nox plays a role in enhancing TG2 activity in human hepatocytes and leads to apoptosis.