Measurement of Endoplasmic and Cytosolic pH in Bax Inhibitor Budding Yeast Mutants

Matthew Wilks & Nicanor Austriaco

Biology, Providence College, Providence, RI

Bax Inhibitor proteins are pH-sensitive calcium channels that have been linked to a diverse range of human cancers. We have shown that yeast Bax Inhibitor (Bxi1p) is an ER localized calcium channel. By using a pH-sensitive GFP superfolder variant called pHluorin, we are monitoring the pH of both the endoplasmic reticulum and cytosol of living yeast cells, some of which carry Bax Inhibitor mutants including Δbxi1, Δcod1, and Δbxi1Δcod1. We are interrogating the change in pH of the endoplasmic reticulum and cytosol after the addition of calcium. Understanding the dynamic behavior of Bax Inhibitor in living cells will allow us to gain a better understanding for their importance.

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