Abstract: "An yeast GFP-based platform for functional and structures investigation of SLC transporters"

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Recombinant expression screening of eukaryotic membrane proteins for functional and structural investigation is still a trial-and-error process. We have found that cloning gene-strings by homologuous recombination into a 2u vector S. cerevisiae expression vector and then detecting membrane protein expression and stability by working with GFP-fusions, enables many constructs to be rapidly tested. We have found an excellent correlation between the best-behaving membrane proteins in yeast to those produced by transient transfection in mammalian HEK293 cells. Here, I will outline these GFP-based methods with a focus on ion and sugar SLC transporters.