Supporting Information

Nitrate and phosphate transporters rescue fluoride toxicity in yeast

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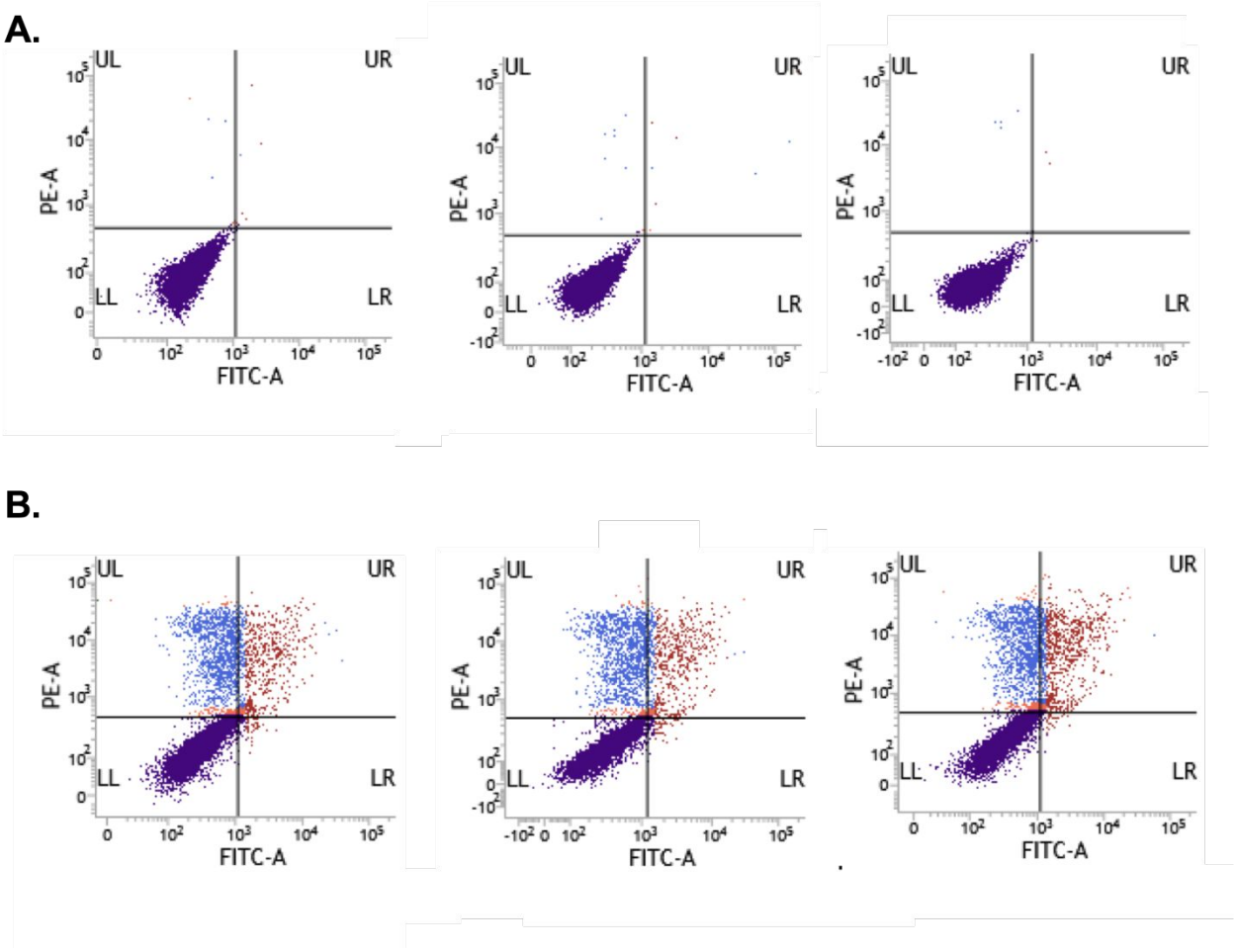


Figure S1: Flow cytometry of FEX DKO yeast. Shown here are the gates drawn for cells after 24 hours growth in (A) YPD or (B) YPD + 50 µM NaF. The viability shown in Figure 1 represents the population of cells in the lower left, with low propidium iodide and annexin staining.

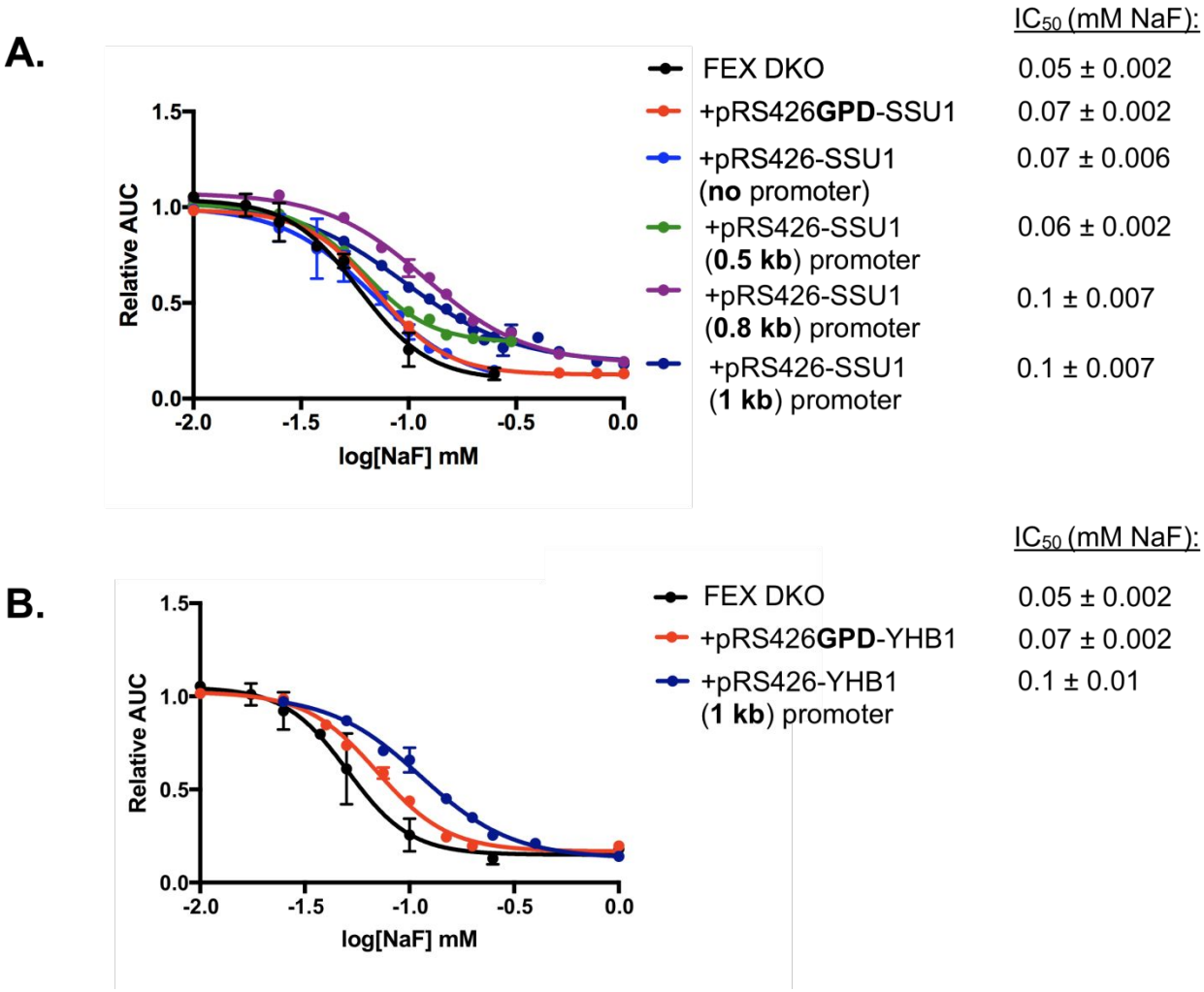
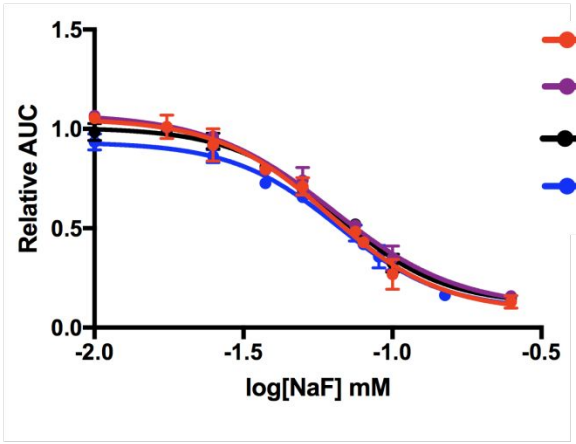


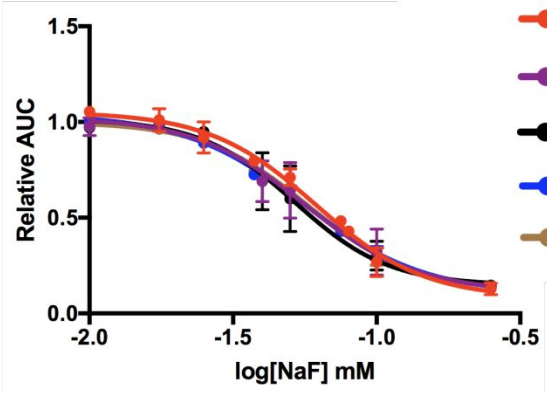
Figure S2: Effect of promoter for SSU1 and YHB1 on fluoride toxicity in FEX DKO *S. cerevisiae*. Liquid growth assay over 24 hours of FEX DKO yeast containing pRS426 plasmids with varying promoter lengths preceding (A) SSU1 or (B) YHB1.

A.



	IC_{50} (mM NaF):
FEX DKO	0.05 ± 0.02
+pRS426**GPD**-CTT1	0.06 ± 0.03
+pRS426**GPD**-SOD1	0.07 ± 0.02
+pRS426**GPD**-CCP1	0.07 ± 0.02

B.



	IC_{50} (mM NaF):
FEX DKO	0.05 ± 0.02
+pRS426**GPD**-ENO1	0.06 ± 0.04
+pRS426**GPD**-ENO2	0.05 ± 0.03
+pRS426**GPD**-HXK1	0.06 ± 0.02
+pRS426**GPD**-PYK1	0.06 ± 0.02

Figure S3: Increased expression of known fluoride targets and their concurrent resistance to fluoride in yeast growth. Liquid growth assay of FEX DKO cells +/- pRS426GPD plasmids over a 24-hour period for proteins involved in (A) oxidative stress response and (B) glycolysis.

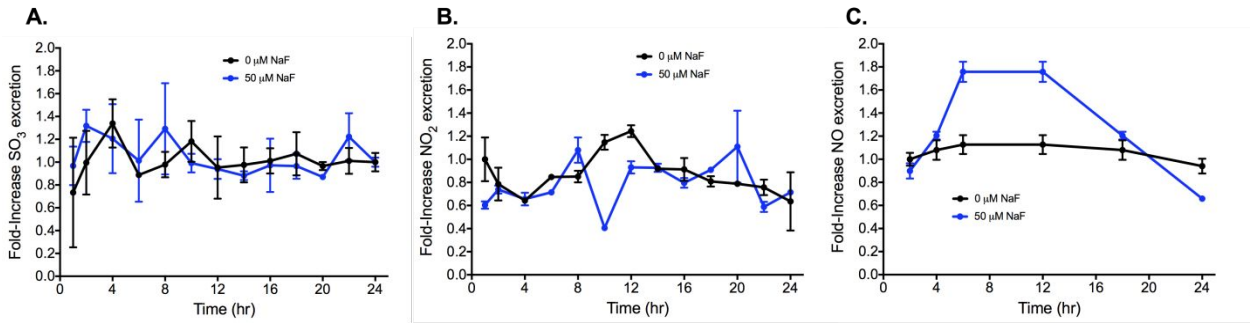


Figure S4: Fold-change in ion concentration over time of (A) extracellular sulfite, (B) extracellular nitrite, and (C) intracellular nitric oxide.

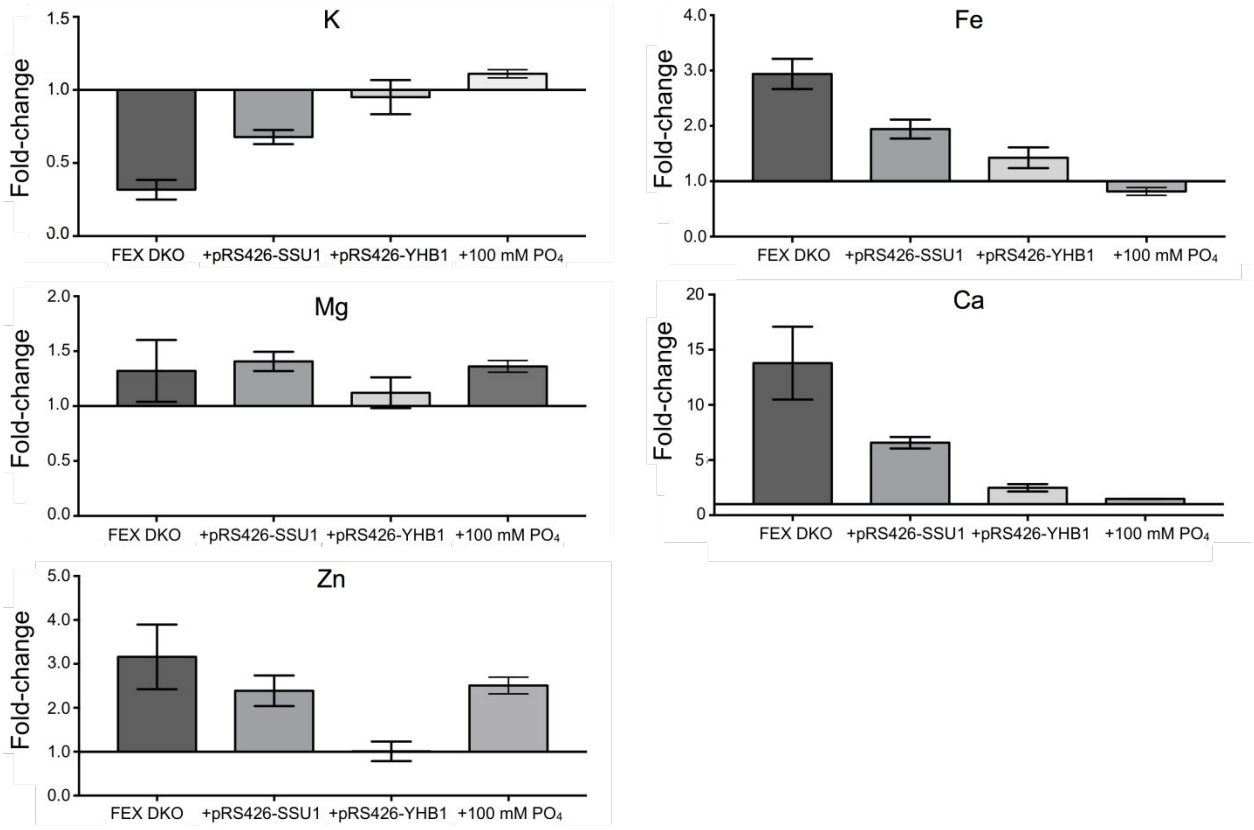


Figure S5: ICP-MS data for FEX DKO after 24 hours growth in YPD + 50 μM NaF with either no plasmid, pRS426-SSU1, or pRS426-YHB1. Data is represented as fold-change in intracellular ion concentration compared with FEX DKO grown in YPD for 24 hours.

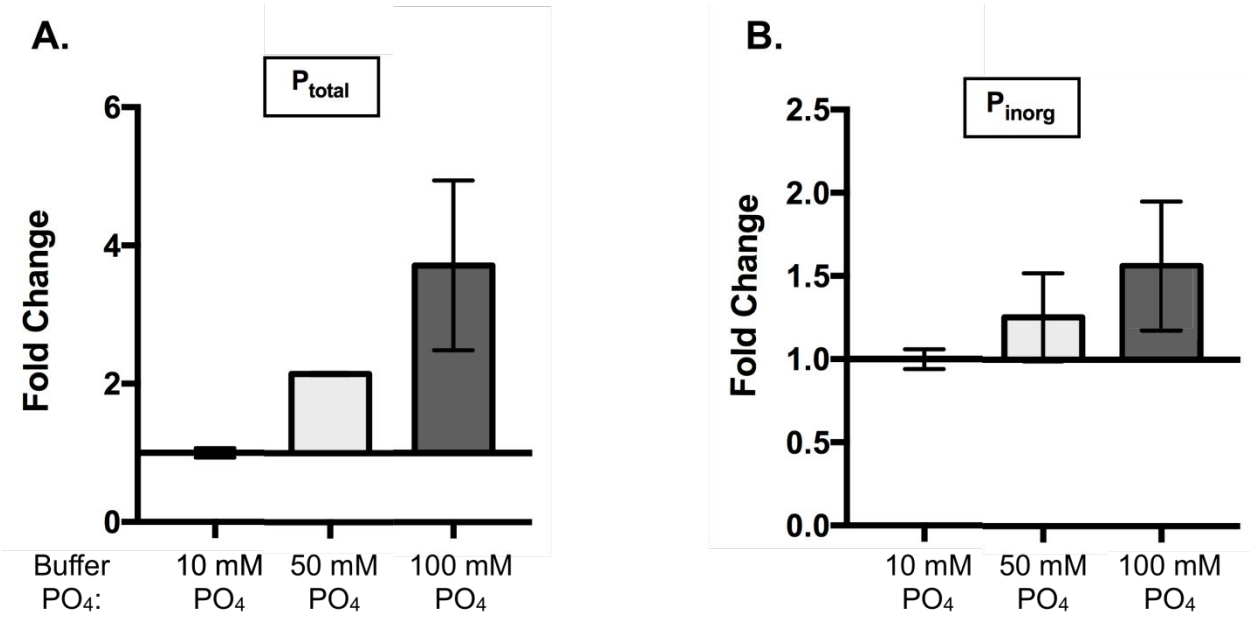


Figure S6: Intracellular phosphate of FEX DKO yeast in increasing YPD-phosphate buffer. (A) Fold change of total phosphate or (B) orthophosphate, as compared to cells grown in 10 mM PO_4.