

Supplemental Material

**Transcription of the YqjH ferric reductase is controlled by Fur and the
novel regulator YqjI in *E. coli*.**

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SUPPLEMENTAL FIGURE LEGENDS

Figure S1. Characterization of the YqjH ferric reductase. A. UV-Visible spectra of purified YqjH. B. Fluorescence of YqjH separated by SDS-PAGE. Gel was exposed to acetic acid with or without pretreatment with performic acid. Coomassie-stained gel is shown at left for comparison.

Figure S2. Activity of the *yqjI-lacZ* promoter fusion was measured in triplicate in various strains of *E. coli* grown in LB media at 37°C with increasing amounts of nickel.

Figure S3. Activity of the *yqjH-lacZ* promoter fusion was measured in triplicate in wild-type (open diamonds) or $\Delta rcnA$ (black diamonds) strains of *E. coli* grown in M9/glucose media at 37°C with increasing amounts of nickel.

Figure S4. Activity of the *yqjH-lacZ* promoter fusion was measured in triplicate in wild-type *E. coli* grown in LB media at 37°C with increasing amounts of nickel.

Figure S5. Genomic neighborhood distribution of *yqjH* and *yqjI* generated by the STRING 8.3 database covering 2,590,259 proteins from 630 organisms (1). Both *yqjH* and *yqjI* from *E. coli* were used for the query.

SUPPLEMENTAL REFERENCE

1. **Jensen, L. J., M. Kuhn, M. Stark, S. Chaffron, C. Creevey, J. Muller, T. Doerks, P. Julien, A. Roth, M. Simonovic, P. Bork, and C. von Mering.** 2009. STRING 8--a global view on proteins and their functional interactions in 630 organisms. *Nucleic Acids Res* **37**:D412-6.

Table S1. Primers used in this study

Primer name	Sequence (5'-3')
yqjH_pET21a_up	AGGCGATACATATGAATAACACCCCCCGC
yqjH_pET21a_dn	TTTTATGGATCCGTTACTTTGCGTGCCA
yqjI_pET21a_up	AGGAGGCTCATATGAGCCATCATCACGAAG
yqjI_pET21a_dn	CCACTGGCGGATCCGGCGATTAATCCAGTT
yqjI_58aa_NdeI	TCGGCACATATGTTTGGTCACGGTGAATTACGTCTG
yqjH_287_up	ATCCGCTCGAGATCAGCCTCCTTTTGCTTAAT
yqjH_upstr_L	CGCGGATCCTGTTATCGCCTTCGTGATGGT
yqjI_287_up	ATCCGCTCGAGTGTATCGCCTTCGTGATGGT
yqjI_upstr_L	CGCGGATCCATCAGCCTCCTTTTGCTTAAT
T7 promoter	TAATACGACTCACTATAGGG
T7 terminator	GCTAGTTATTGCTCAGCGG
5'-lacI-Kn	GGCACGACAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCCG GATCAATTCCCCTGCTCGCGCAGGCTGG
3'-lacZ	AACTGTTGGGAAGGGCGATCGGTG
pPK7035 seq(150)	GCTGATCCGGTGGATGACCTTTTGA
Homol Recom Rev	AACTGTTGGGAAGGGCGATCGGTG
yqjH_PS1	ATTTAGATATATCTGATTACCATCACGAAGGCGATAACAGTG TAGGCTGGAGCTGCTTC
yqjH_PS2	TGACGAGAAATCGTCAGCCTTTTTCTTTTTATATATCAGCATA TGAATATCCTCCTTAGT
yqjH_up	CGTCTTATCAGACTATAGACATATCAG
yqjH_dn	GGTTAGAGCAGGCGACTCATAATC
yqjI_PS1	ATTAGATATATCTAATTAAGCAAAAAGGAGGCTGATGTGTAGG CTGGAGCTGCTTC
yqjI_PS2	CGGCAATTGCACCCGCGCCACTGGCGGATGCGGCGACATATGA ATATCCTCCTTAGT
yqjI_up	TCTGATAAGACGAACCGCCTC
yqjI_dn	GGTTGGAGCACAATGCCTGATG
fes_PS1	AACATGGCCCGGAATGGCAGCGTCTGAATGACGAAGTGTAGG CTGGAGCTGCTTC
fes_PS2	CTGCGGATCATCGAAGGGATTACTGAATGCCATATATATGAAT ATCCTCCTTAGT
fes_up	AAAGTAGGAAGTGAGAGCTGGTGG
fes_dn	CCGCAACAATGCGTCTTACC
rcnA_PS1	ATCAGATTGCCGAATTAATACTAAGAATTATTATCGTGTAGGC TGGAGCTGCTTC
rcnA_PS2	GGGCTGAAGATAACATGCAAGCCTAAAGGATTGAGATATGAAT ATCCTCCTTAGT
rcnA_up	ACGACCTGGCCCTGAATCTTAC
rcnA_dn	CAGTCGCATATCTTTCCTGCCATAC
yqjH_-45~-18	[F]GTTTTATTAGATATATCTGATTACCAT

yqjH_-45~-18RC	ATGGTAATCAGATATATCTAAATAAAAC
yqjI_-41~14	[F1]ATATAAATTAGATATATCTAATTAAGCA
yqjI_-41~-14RC	TGCTTAATTAGATATATCTAATTTATAT
yqjH_-81~-54(fur)	[F1]TGCATTTATCATAAATGATAATGATTGT
yqjH_-81~-54(fur) RC	ACAATCATTATCATTTATGATAAATGCA
(rdm)yqjH_-143~-116	[F1]TAAGACGAACCGCCTCTTCTCAGGCATC
(rdm)yqjH_-143~-116RC	GATGCCTGAGAAGAGGCGGTTCGTCTTA

[F1] = 5'-fluorescein labeled

Figure S1

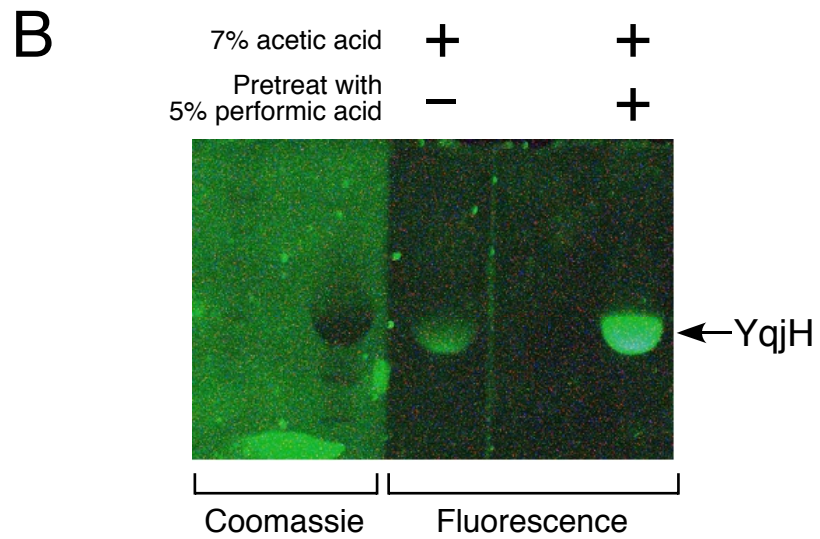
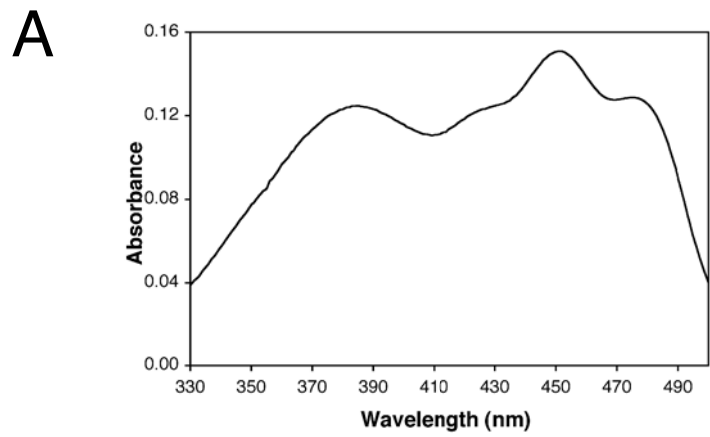


Figure S2

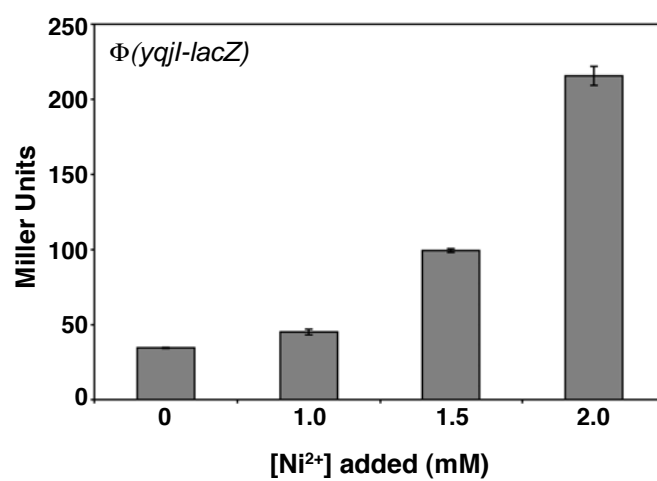


Figure S3

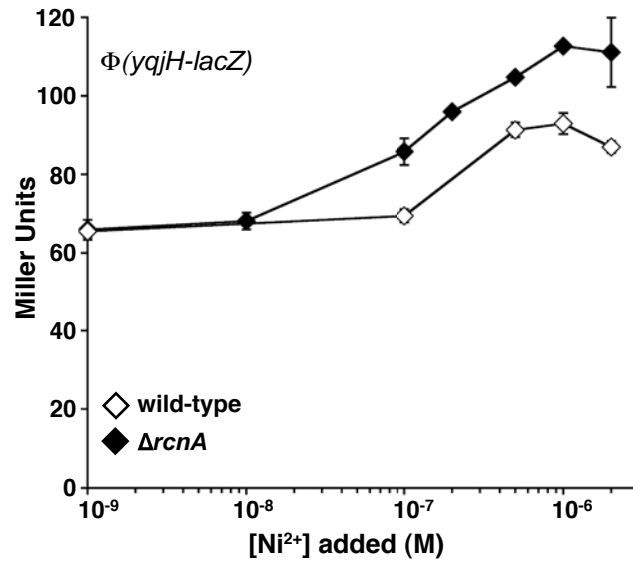


Figure S4

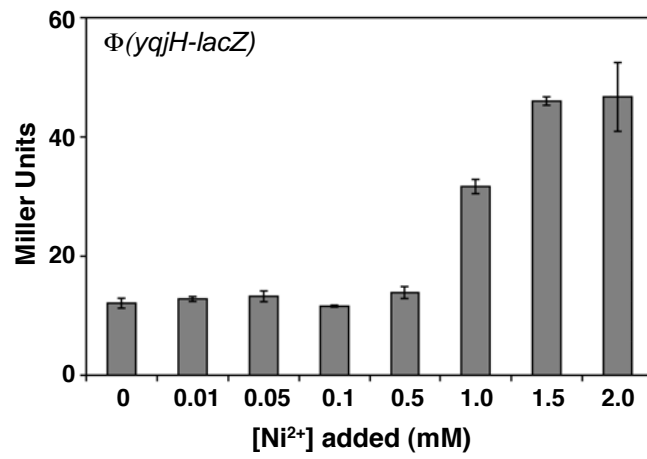


Figure S5

