

Supporting information for

Illuminating Histidine-Deficient Intracellular Environments: A Novel Whole-Cell Microbial Fluorescence Sensor

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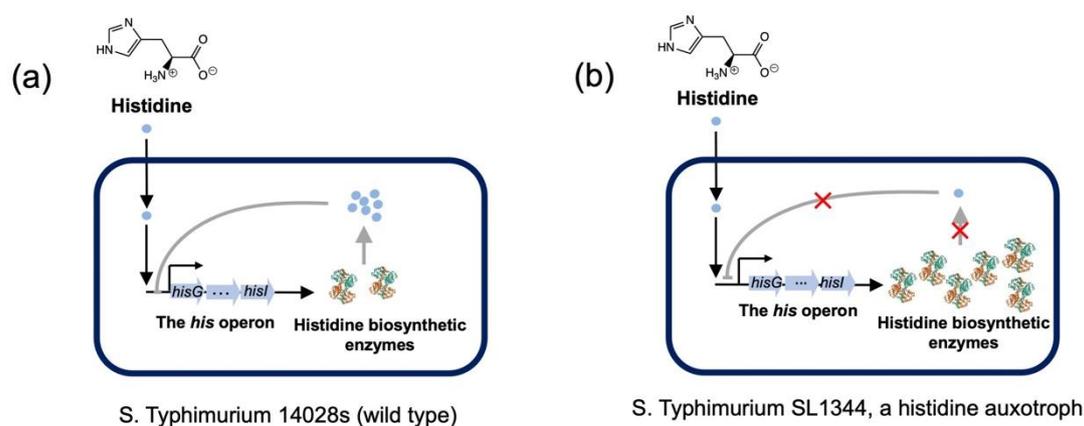


Figure S1. Histidine Operon Regulation in *S. Typhimurium* Strains. (a) Wild type (*S. Typhimurium* 14028s): Normal histidine biosynthesis and efficient conversion of PRPP to histidine by histidine synthase, maintaining stable histidine operon transcription levels even in histidine-deficient conditions. (b) *S. Typhimurium* SL1344 (histidine auxotroph): Enhanced expression of histidine synthase, regulated by the histidine operon, in response to low histidine concentrations.

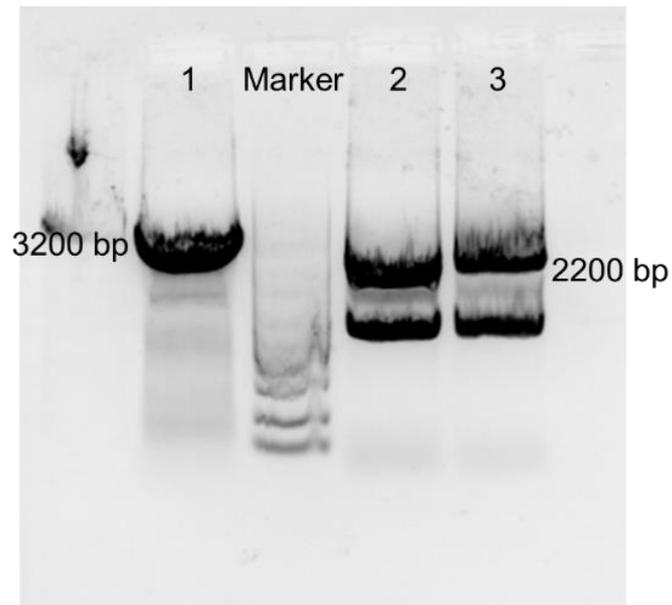


Figure S2. Linearized vectors amplified from pGEX-6p-1 plasmid or pSB3313 plasmid. (lane 1: pSB3313; lane 2 and 3: pGEX-6p-1).

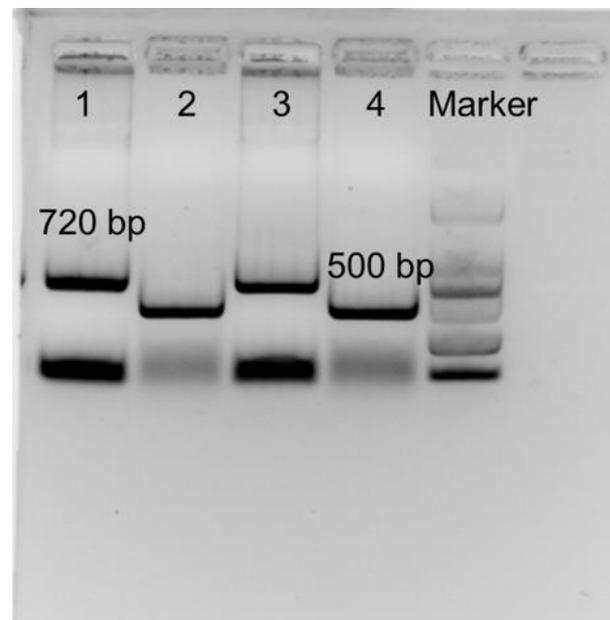


Figure S3. The gene encoding EGFP amplified from pEGFP plasmid (lane 1 and 3) and the promoter of *his* operon amplified from *S. Typhimurium* SL1344 strain (lane 2 and 4).

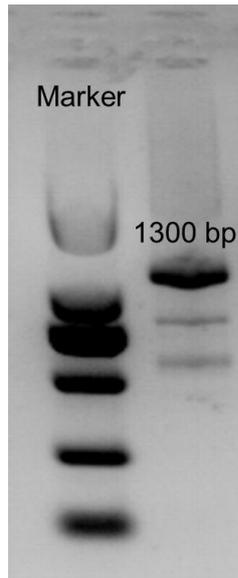


Figure S4. The fragment containing both *his* promoter and EGFP gene obtained by overlap extension PCR.