

Operon Promoter Landscape

Operon	Strand	Operon start	Operon end
ivbL-ilvBN-uhpABC	-	3851011	3845328

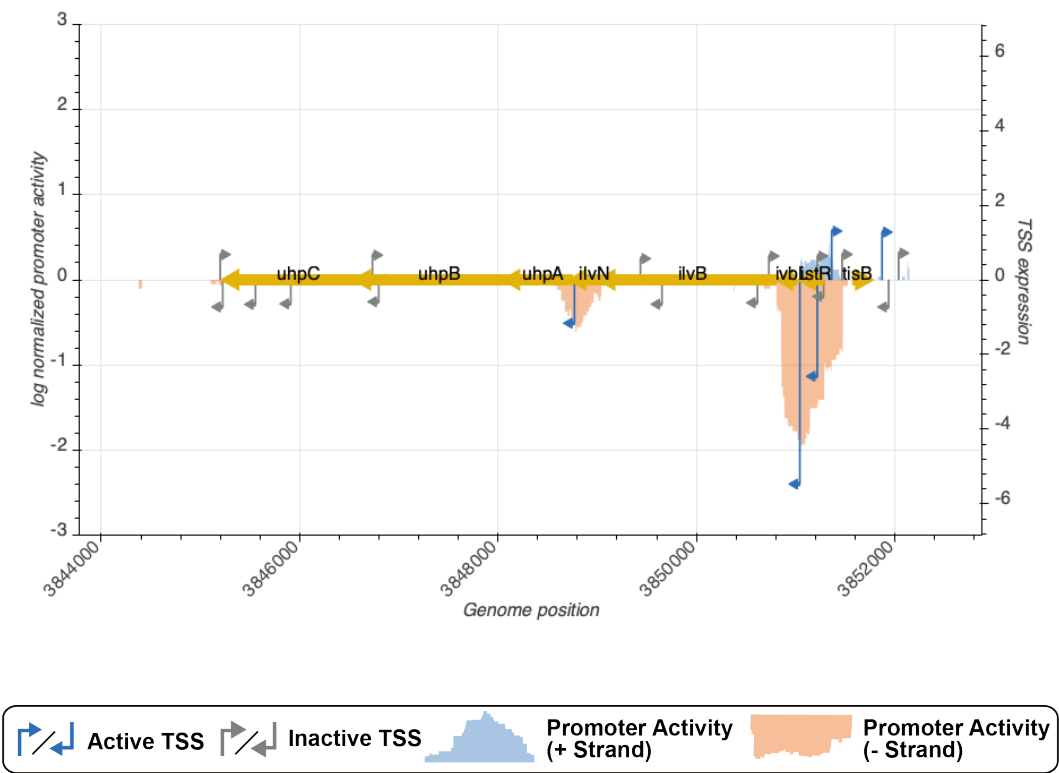


Figure 1: **Promoter activity in rich media (LB) surrounding query operon.** 17,767 previously reported TSSs were evaluated by measuring the promoter activity (right Y-axis) of the 150 bp surrounding the TSS (-120 to +30) to determine which were active or inactive. The genome-wide promoter activity (left Y-axis) was determined by measuring expression of over 300,000 genomic fragments spanning the *E. coli* genome and averaging promoter activity at all nucleotide positions in a strand-specific fashion. Genome coordinates corresponds to *E. coli* genome version U00096.2.

TSS Summary

TSS name	TSS position	Strand	TSS activity	Category
TSS_14926_storz	3851216	+	0.6357894	inactive
TSS_14928_regulondb	3851360	+	1.3048303	active
TSS_14927_wanner	3851279	-	0.4450457	inactive
TSS_14929_regulondb	3851465	+	0.6820697	inactive
TSS_14924_storz_wanner_regulondb	3851039	-	5.4677714	active
TSS_14925_storz_regulondb	3851215	-	2.5822146	active

TSS Scanning Mutagenesis

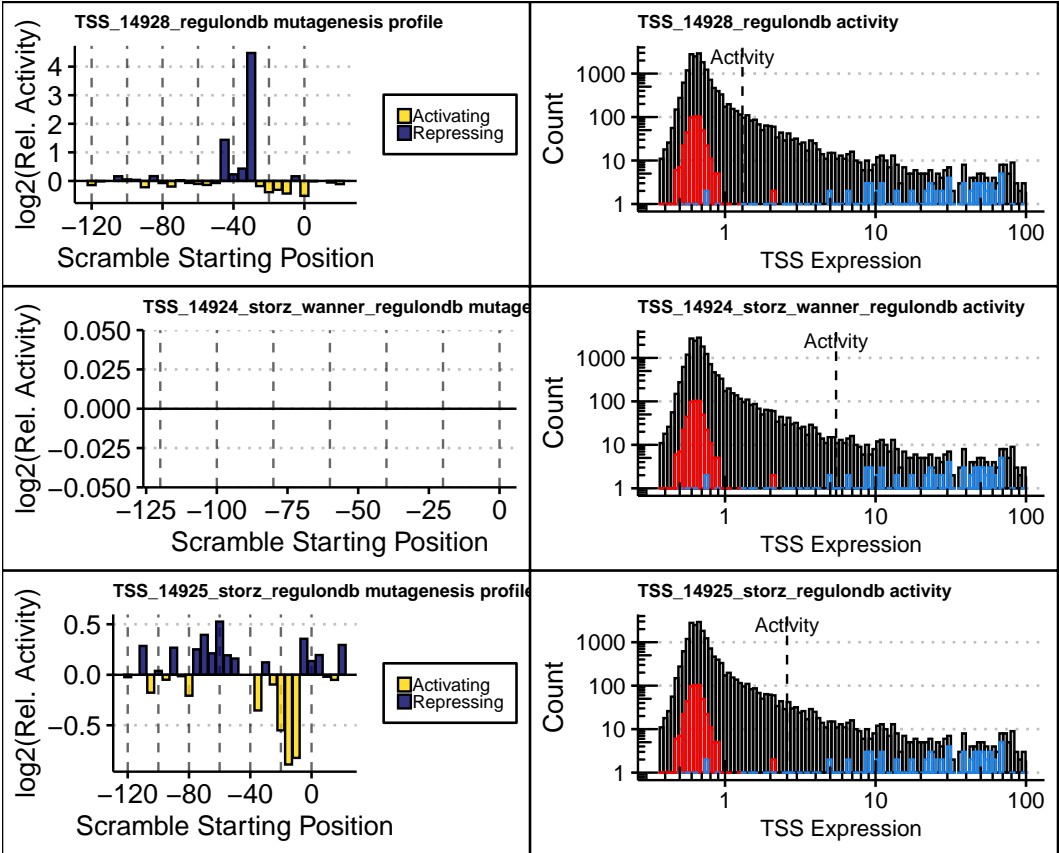


Figure 2: **(Left)** Mutagenesis profile(s) of active TSS(s). Sequences surrounding active TSSs were systematically mutated to identify regions controlling expression. Bar height indicates the relative change in promoter activity as a result of scrambling nucleotides within 10 bp regions at 5 bp intervals spanning the promoter. Bar color identifies the region as a putative activator (yellow) or repressor (purple). **(Right)** Dashed line indicates the expression of the indicated TSS relative to all tested TSS sequences. The distributions of expression is shown for all tested TSSs (black), 500 negative controls (red), and a set of constitutive promoters from the BioBrick registry (blue).