

***ssrB***

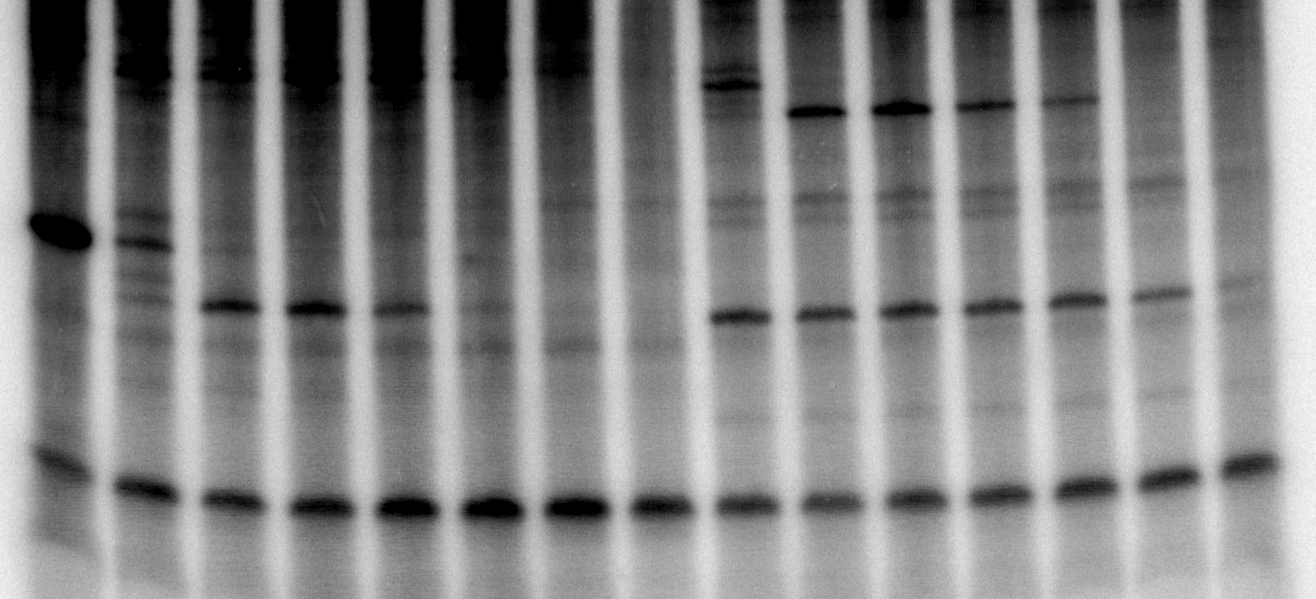
**RNA1**

[PhoP]

***ssrA***

**RNA1**

[OmpR]



**A.**

**B.**

**Figure 4-figure supplement 3.** Transcription of the *ssrA* and *ssrB* promoters is directly coupled to the PhoQ/PhoP and EnvZ/OmpR signaling pathways, respectively. In contrast to many two-component systems, transcription of *ssrA* and *ssrB* is uncoupled and differentially regulated. *In vitro* transcription assays using supercoiled *ssrB* (**A**)and *ssrA* (**B**) templates and phosphorylated PhoP~P and OmpR~P, respectively, were employed to confirm previous genetic and biochemical evidence suggesting a direct role for each regulator in activation of transcription. The activator-specific *ssrB* or *ssrA* transcripts and 110 nt RNA1 control are indicated by arrows. From left to right in 2-fold increments, reactions contained from 12.5-200 nM PhoP~P or OmpR~P. The levels of phosphoprotein for PhoP and OmpR and were 70% and 90%, respectively under the reaction conditions used. In the absence of phosphorylation, neither protein was able to activate transcription of its respective target promoter.