

Supplementary Information. Contains Supplementary Figures 1-10, Supplementary Table 1 and References.

Supplementary Video 1. Timelapse of sporulating *B. subtilis* WT with GFP-tagged ribosomes (RpsB-GFP).

Supplementary Video 2. Timelapse of sporulating *B. subtilis* WT with GFP-tagged RNA polymerase (RpoC-GFP).

Supplementary Data 1. Mass spectrometry results

The data, deposited in ProteomeXchange (PXD047497), were processed with MaxQuant. Log2 fold changes were calculated for: DSP fr1-4 vs. D fr1-4 (cross-linked vs. non-cross-linked samples lysed with digitonin), DSP fr1-4 and D fr1-4 vs. monosomal fraction P (control for lysis method), and sporulating sample P vs. logarithmic sample Log fr1-2 (control for growth stage).

Source Data. A zipped folder containing all raw data for Figures 1–3, and Supplementary Figures 6 and 9.