

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Variants with recurrent changes across multiple populations between Generation 3 and 7.

File Name: Supplementary Data 2

Description: Marker genes of yolk cluster that are differentially expressed in the evolved line.

File Name: Supplementary Data 3

Description: Differentially expressed genes between the evolved line and the other two samples.

File Name: Supplementary Data 4

Description: Map of eGFP-Bicoid construct used to generate the *4xbcd* line in this study.

File Name: Supplementary Movie 1

Description: Light-sheet imaging of eGFP-tagged Bicoid throughout embryonic development of *4xbcd* embryos.