

List of Supplementary Information:

1. Supplementary Data Tables

Supplementary Table 1 (presented as an excel file)

Peptides detected by Mass-spectrometry after immunoprecipitation with ABs detecting amnio acid 57-76 of Arhgef2-207 in primary intestinal epithelial cells.

Supplementary Table 2 (presented as an excel file)

Peptides detected by Mass-spectrometry after immunoprecipitation with ABs detecting amnio acid 656-1000 of Arhgef2-201 in primary macrophages.

Supplementary Table 3 (presented as an excel file)

DESeq2 analysis of genes differentially regulated in small intestinal epithelial cells isolated from *Arhgef2*^{207^{vilc}} and *Arhgef2*^{207^{cKO}}.

Supplementary Table 4 (presented as an excel file)

Quantification of infection-induced changes in Pol II loading at promoters. Promoter-specific Pol II CUT&Tag signal (mean \pm s.e.m.) across ARHGEF2-associated promoters (P1–P2) and CXCL8 and PHDLA1 in control and *Listeria*-infected organoids, together with Welch's *t*-test statistics, fold-change values, and log₂FC estimates.

Supplementary Table 5

Key resources table