



**Supplementary information, Figure S4** Long-term lineage tracing of DI<sup>+</sup> cell in healthy flies. (A) Strategy for lineage tracing analysis. Flies of appropriate genotypes

were raised at 18°C, then were shifted to 29°C. Midguts were dissected and analyzed on day 7, 35 and 55 after shifting to 29°C. (B-D) Whole mount view of midgut on day 7 (B), 35 (C) and 55 (D) at 29°C. The enlarged view of corresponding CCRs were shown in (B'-C'). D1-Gal4<sup>ts</sup> directed lineages were labeled by lacZ (in green), and the CCR was recognized by 2B10 (red) expression. Note that D1-Gal4<sup>ts</sup> directed lineages in the CCR underwent continuous expansion over time. On day 55 at 29°C, the D1-Gal4<sup>ts</sup> derived cell lineages virtually occupied the entire gastric epithelium.