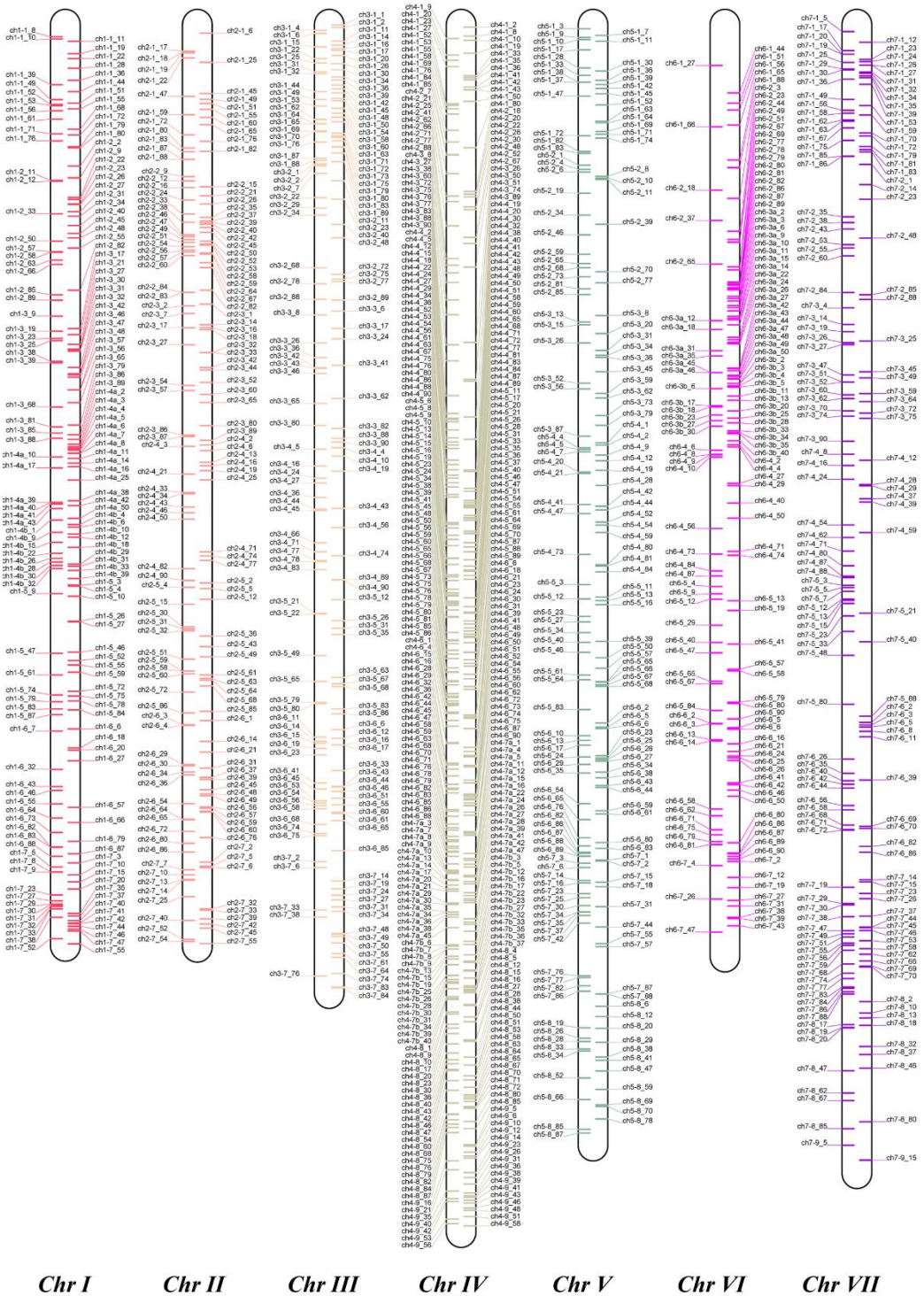

Figure S1. Localization of *Dr*ERVs in zebrafish chromosome 1–7.

The abbreviations of the names of *Dr*ERVs are used

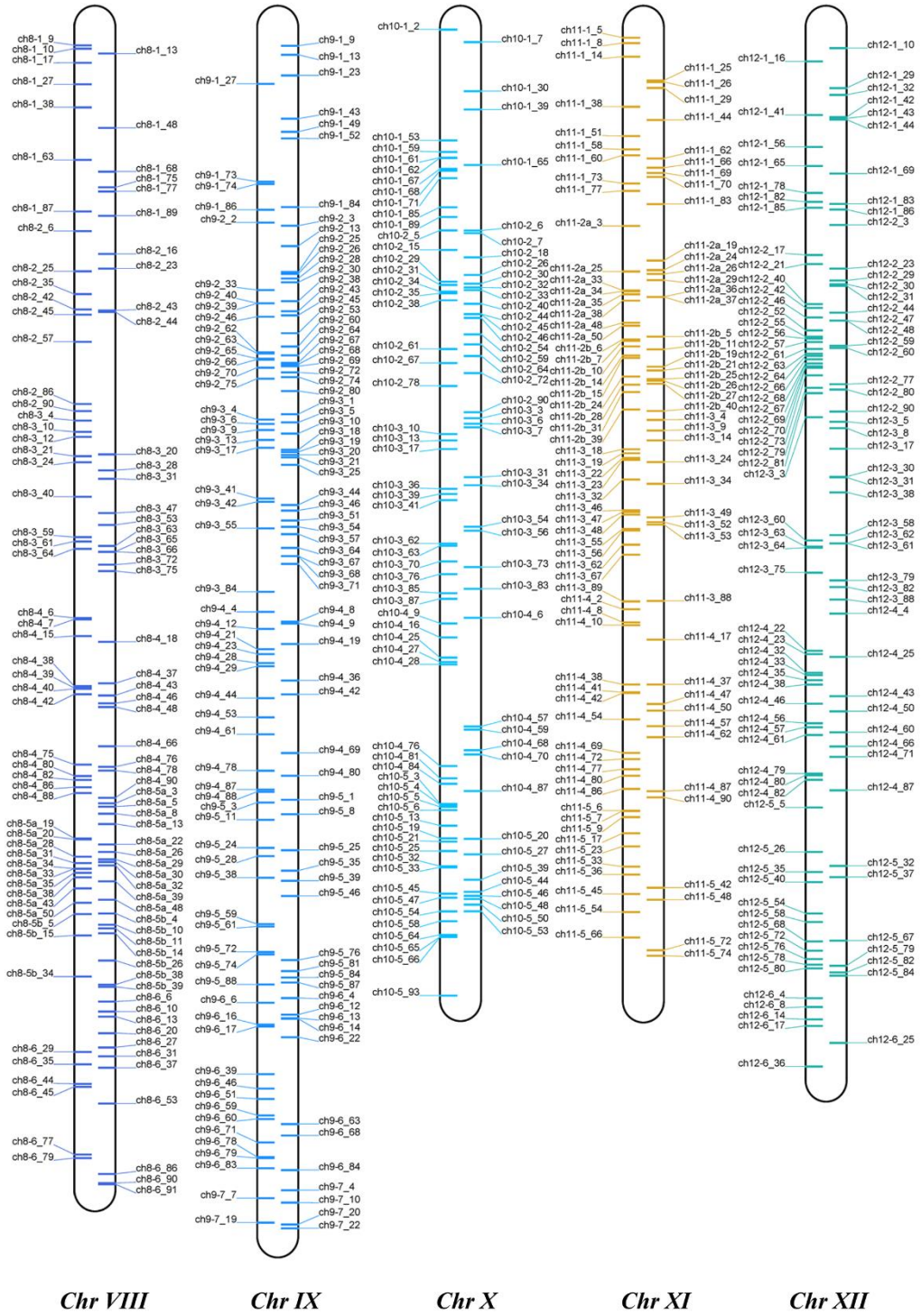

Figure S2. Localization of *Dr*ERVs in zebrafish chromosome 8–12

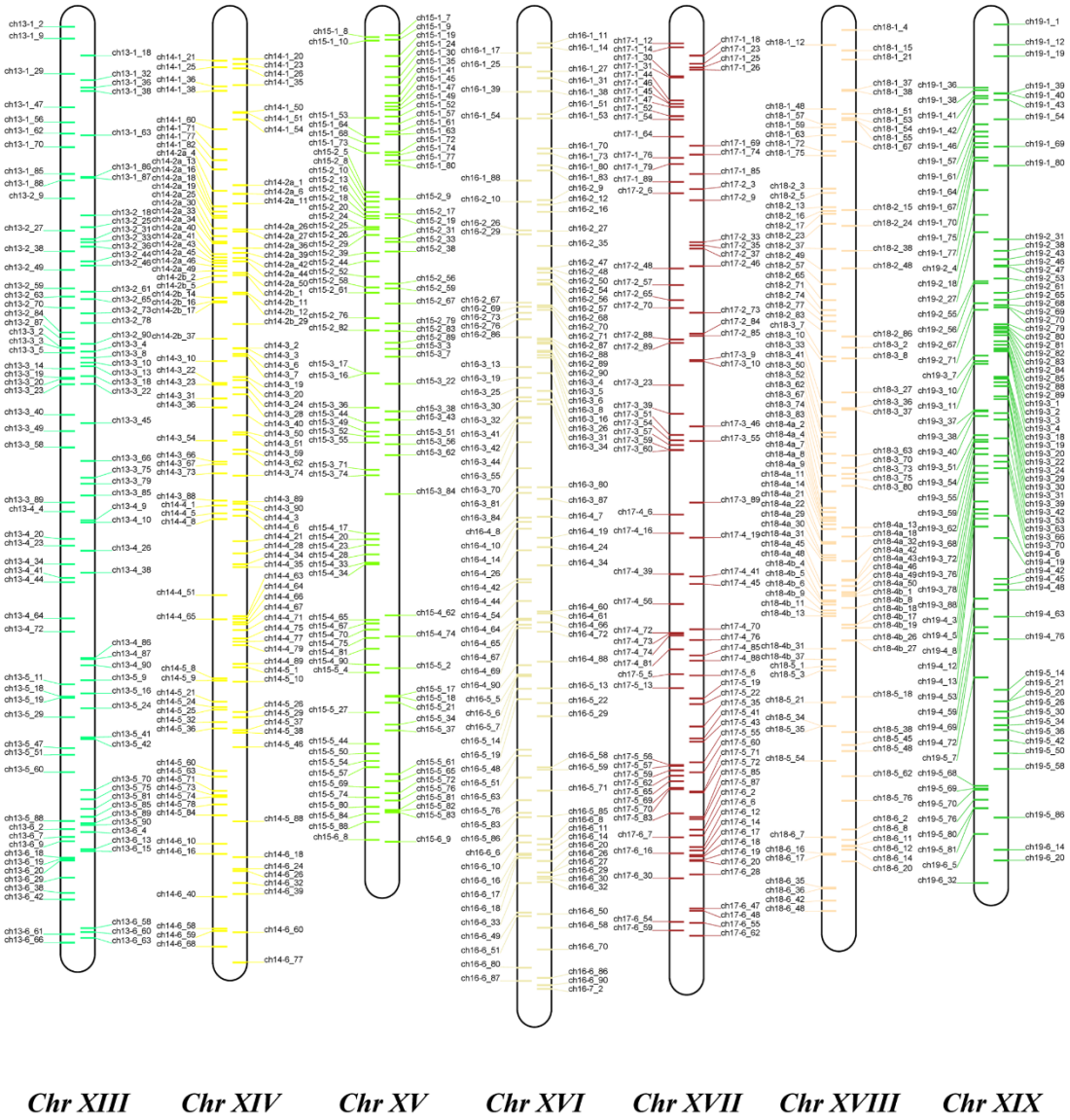

Figure S3. Localization of *Dr*ERVs in zebrafish chromosome 13–19

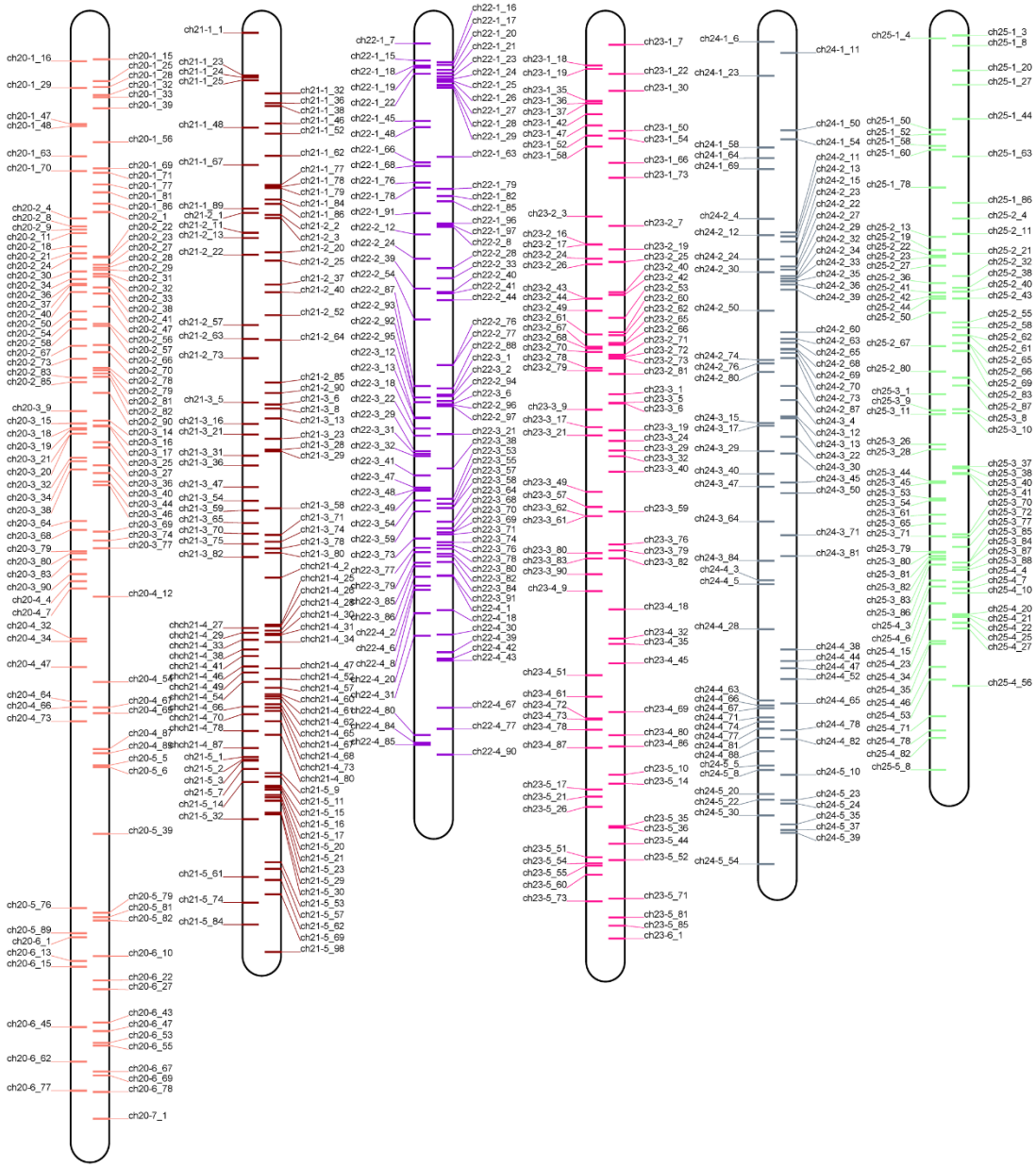

Figure S4. Localization of *Dr*ERVs in zebrafish chromosome 20–25

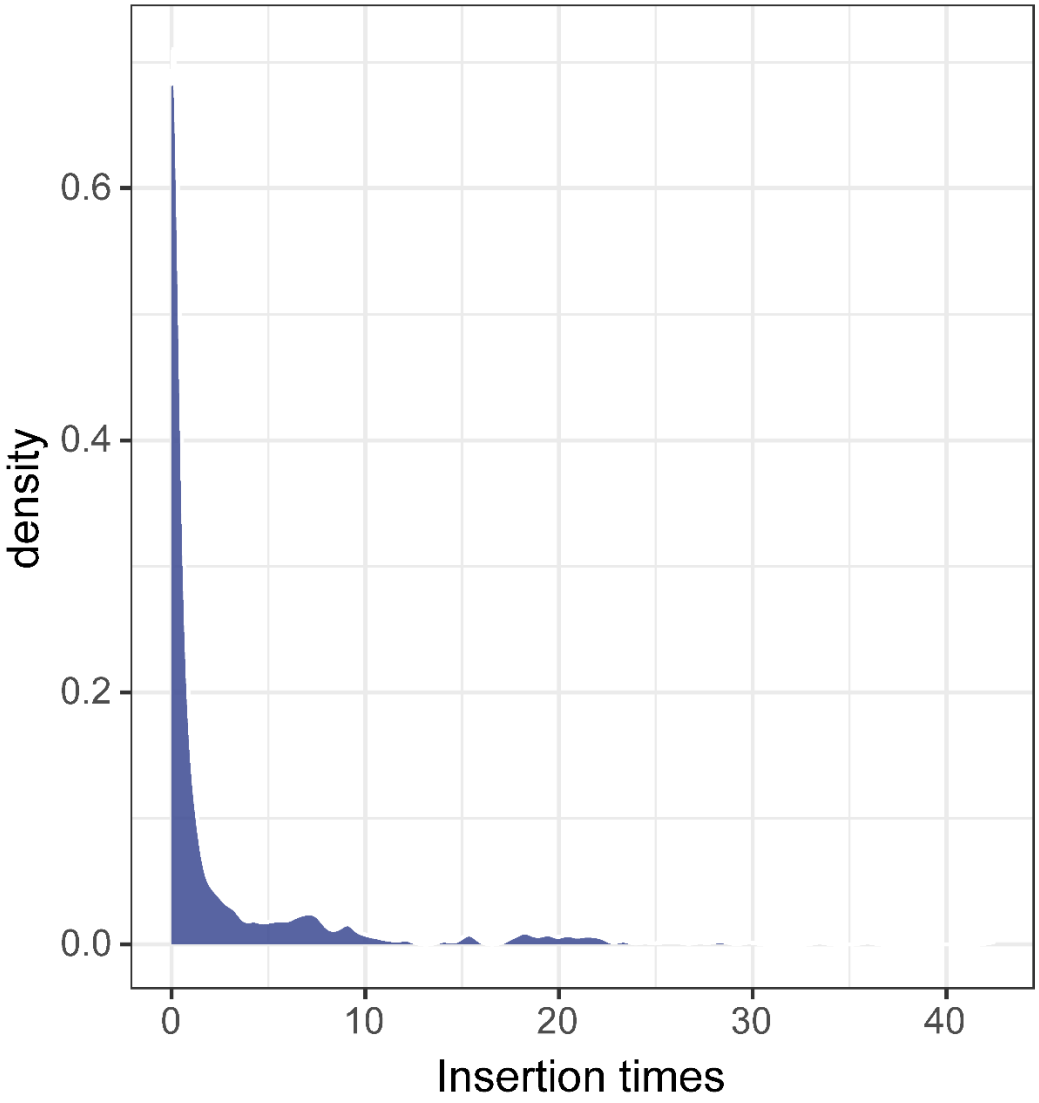

Figure S5. Density distribution of the insertion times of *Dr*ERVs

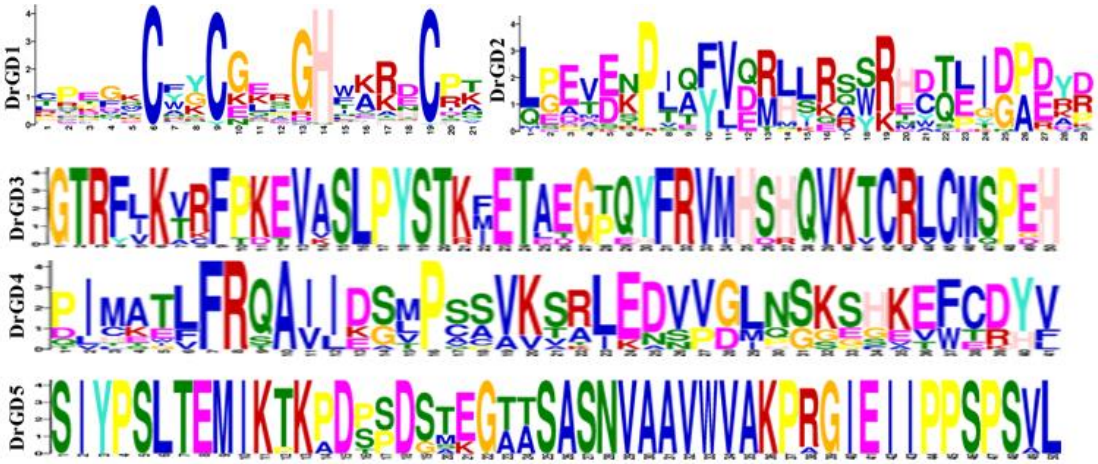

Figure S6. Consensus sequences of the predicted DrGD1-5 domains in *gag* genes

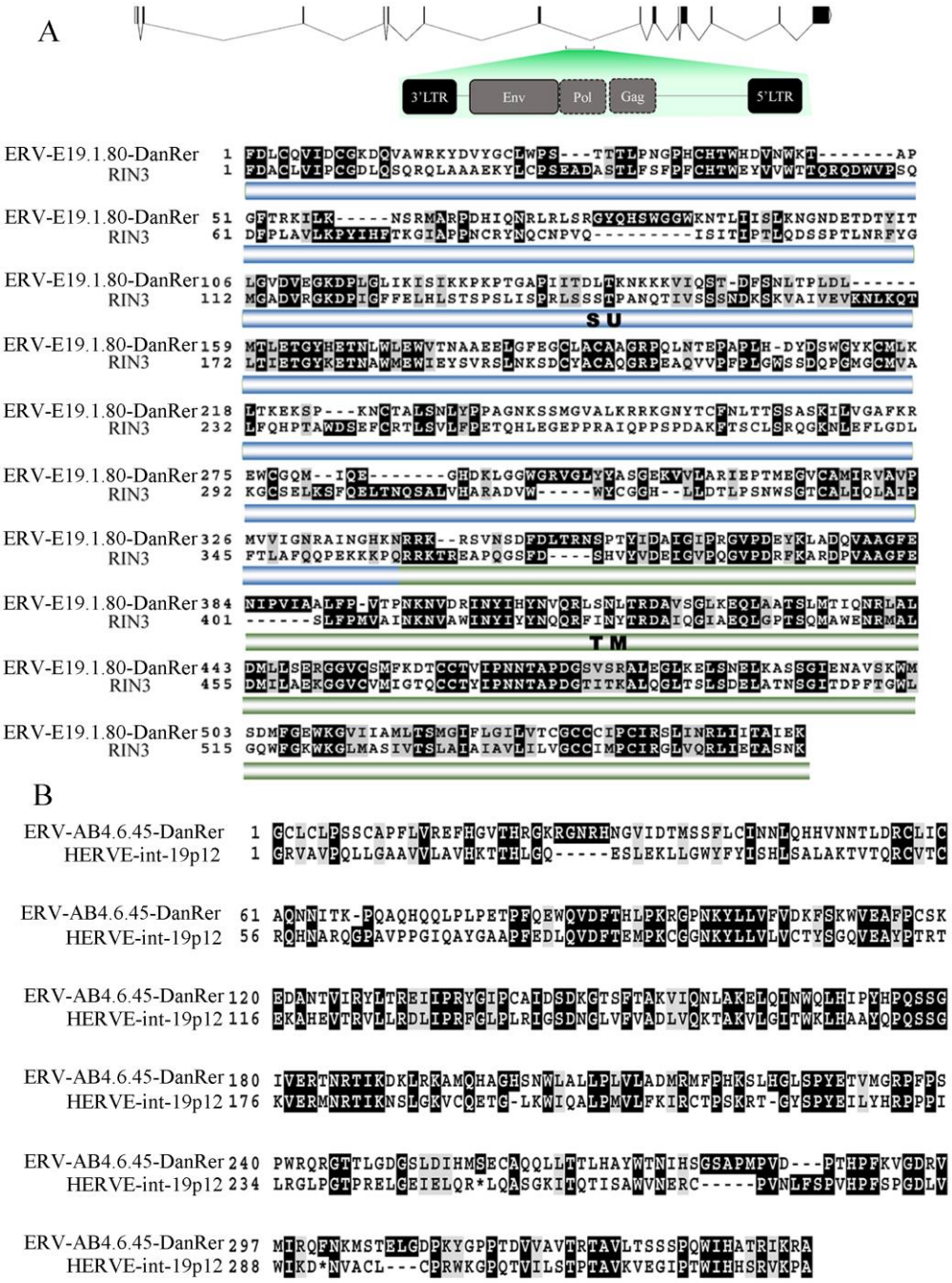

Figure S7. Sequence comparison of Env and Gag between *Dr*ERVs and HERVs
(A) Amino-acid sequence alignment of ERV-E19.1.80-DanRer-*env* with the *env*-like element in intron of human RIN3, in which the putative SU domain is marked up by blue line, and the TM domain is marked up by green line. (B) Amino-acid sequence alignment of ERV-AB4.6.45-DanRer-*gag* with that of the HERVE-int-19p12.

> HERV-14q32.12

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TAACA

LTR

Gag

Pol

Env

LTR

Figure S8. Sequences and annotation of HERV-14q32.12

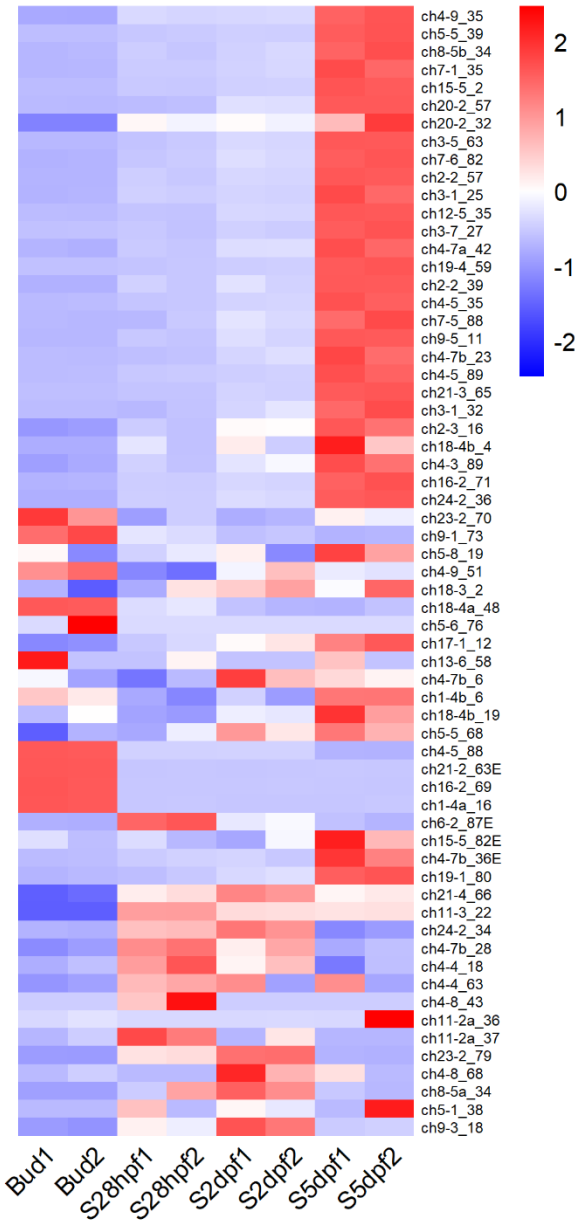

Figure S9. Expression of *env*1-4 at 4 embryonic stages.

The abbreviations of the names of *Dr*ERVs are used

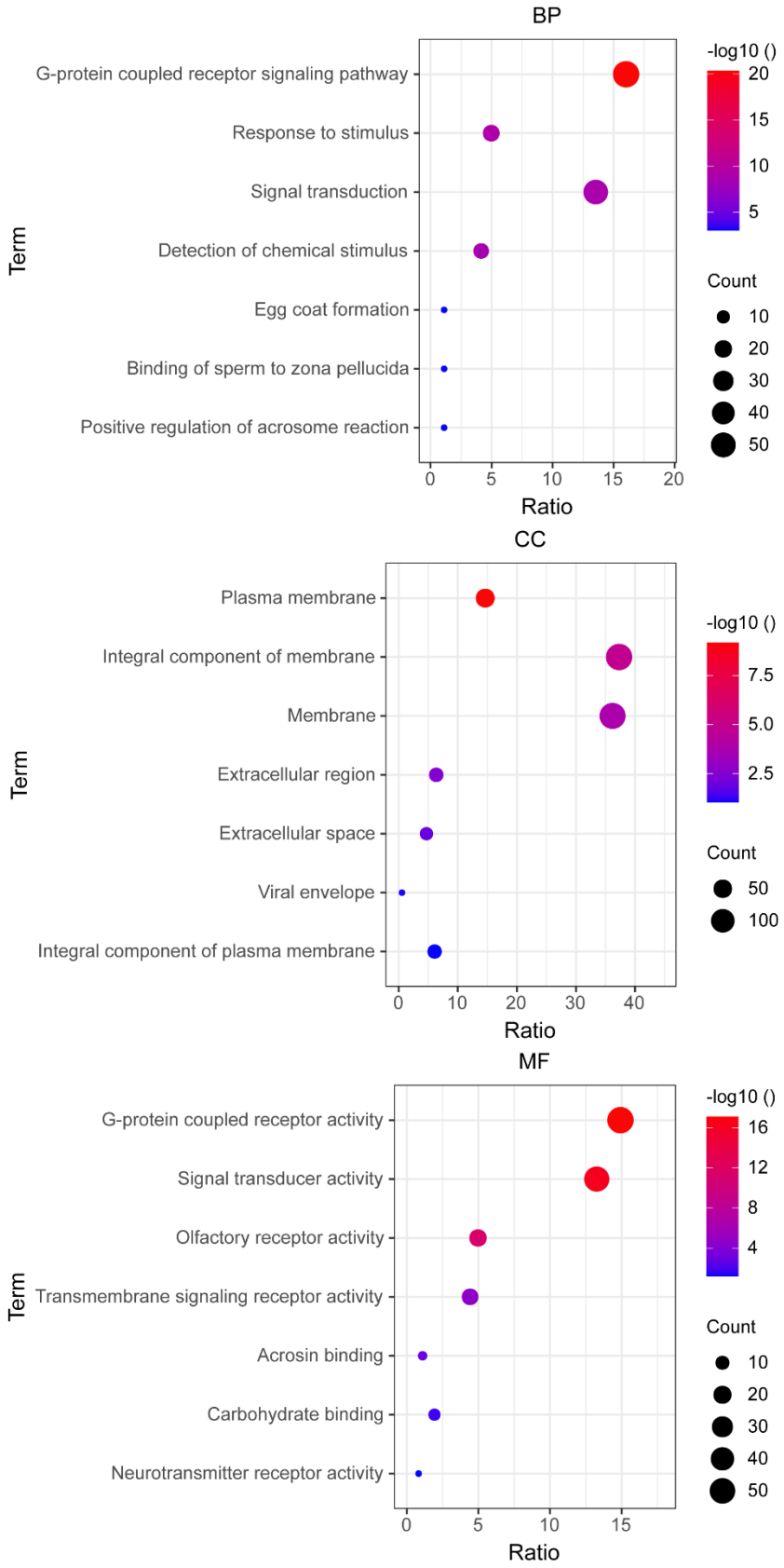

Figure S10. GO enrichment of genes co-expressed with *Dr*ERV upon SVCV infection