

**Table S4. Signature Regions (SR) recovery rates.** Data are presented for families pLIC (TC: 1.A.9), GIC (TC:1.A.10) and VPC (TC: 1.A.51). MAST was run using a threshold E-value of  $1 \times 10^{-3}$  (see Methods).

Family	Number of homologs	Homologs with SR	Recovery rate (%)
pLIC	14,502	5,533	38.15
GIC	9,547	7,712	80.77
VPC	718	568	79.1