

Figure S1. Phylogenetic evolutionary tree, motifs distributions, and domains of the subclass Ib subfamily members.



Figure S2. Phylogenetic evolutionary tree, motifs distributions, and domains of the subclass Ic


Figure S3. Phylogenetic evolutionary tree, motifs distributions, and domains of the subclass Id subfamily members.


Figure S4. Phylogenetic evolutionary tree, motifs distributions, and domains of the subclass Ie subfamily members.

A


B




Figure S5. Phylogenetic evolutionary tree, motifs distributions, and domains of the subclass IIa and IIb subfamily members. (A) Phylogenetic evolutionary tree, motifs distributions, and domains of the subclass IIa subfamily members. (B) Phylogenetic evolutionary tree, motifs distributions, and domains of the subclass IIb subfamily members.


Figure S6. Chromosome distribution of LBDs in the Rosoideae. (A) Chromosome distribution of LBDs in R. occidentalis. (B) Chromosome distribution of LBDs in F. vesca. (C) Chromosome distribution of $L B D s$ in $R$. chinensis.


Figure S7. Chromosome distribution of LBDs in the Maloideae. (A) Chromosome distribution of LBDs in C. pinnatifida. (B) Chromosome distribution of LBDs in P. communis. (C) Chromosome distribution of LBDs in M.domestica.

A


B


C


Figure S8. Collinearity of segmental duplication gene pairs of LBDs in the Maloideae. (A) Collinearity of segmental duplication gene pairs of LBDs in C. pinnatifida. (B) Collinearity of segmental duplication gene pairs of LBDs in P. communis. (C) Collinearity of segmental duplication gene pairs of LBDs in M.domestica. The red lines represent the segment duplication (SD) gene pairs of the LBDs.


Figure S9. The distribution of the main 20 cis-elements in $L B D$ gene promoters.


Figure S10. Expression pattern of PmLBDs in different developmental stages of flower buds.


Figure S11. Expression pattern of PmLBDs in different locations and seasons. BJ, Beijing; CF, Chifeng; GZL, Gongzhuling.

