Supplementary Materials

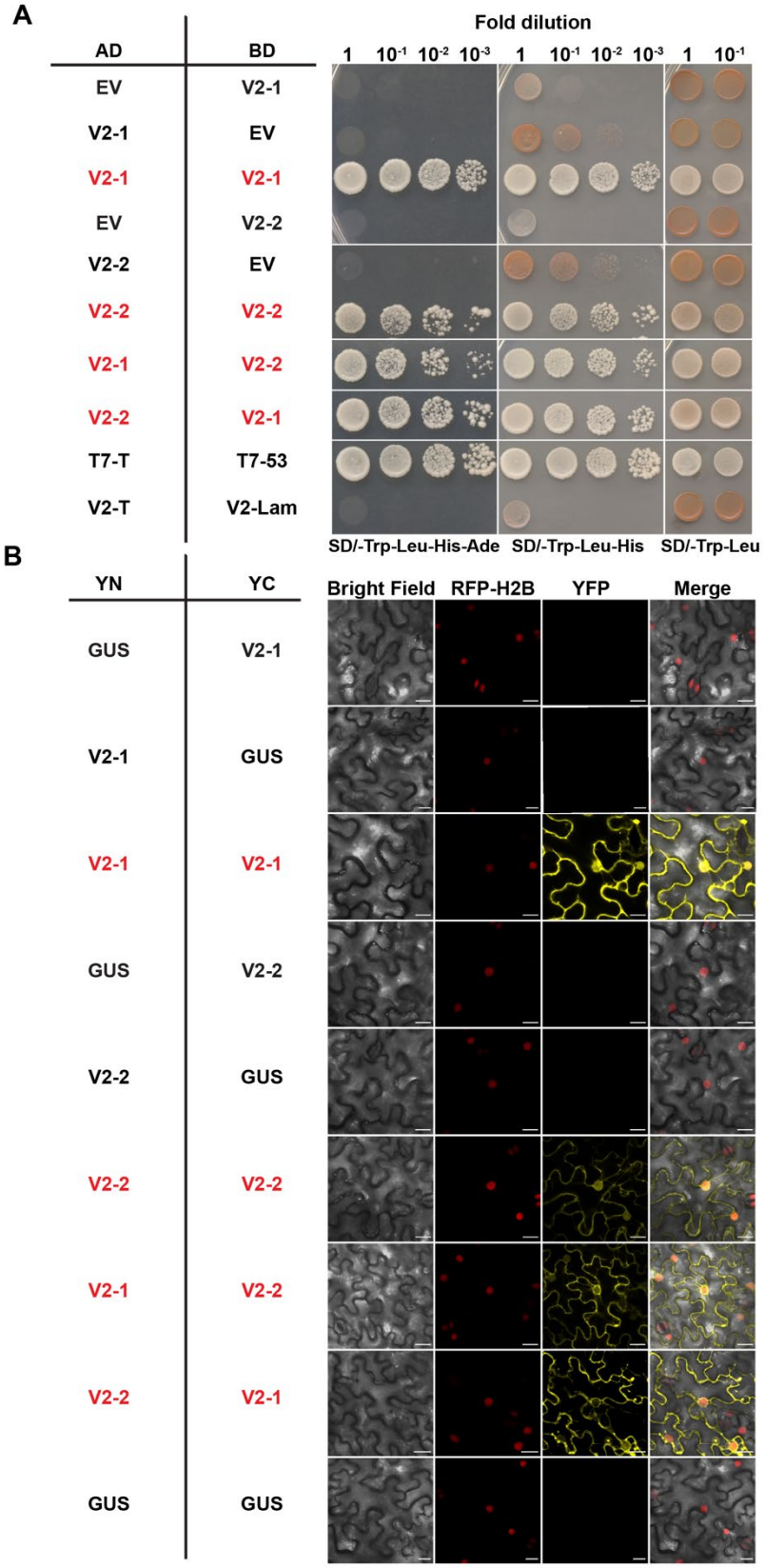

Figure S1 V2-1 and V2-2 exhibit self-interaction and mutual interaction. (A) Yeast two-hybrid assay. Plasmid combinations were co-expressed in yeast strain Y2HGold, followed by spot assay on quadruple dropout (SD/-Trp/-Leu/-His/-Ade), triple dropout (SD/-Trp/-Leu/-His), and double dropout (SD/-Trp/-Leu) media. AD-T7+BD-T7-53 served as positive control; AD-T7+BD-T7-Lam as negative control. 10^{-1}, 10^{-2}, 10^{-3} indicate dilution gradients. Results were consistent across three biological replicates. (B) Bimolecular fluorescence complementation (BiFC) assay. Confocal microscopy images of *N. benthamiana* leaves co-infiltrated with *Agrobacterium* harboring indicated plasmid combinations. All samples were imaged under identical settings on a Zeiss LSM 980 microscope, with columns displaying bright field (cellular morphology), RFP-H2B (nuclear marker), YFP (fusion protein signal), and merged channels. Scale bar: 20 μm. Results were consistent across three biological replicates.

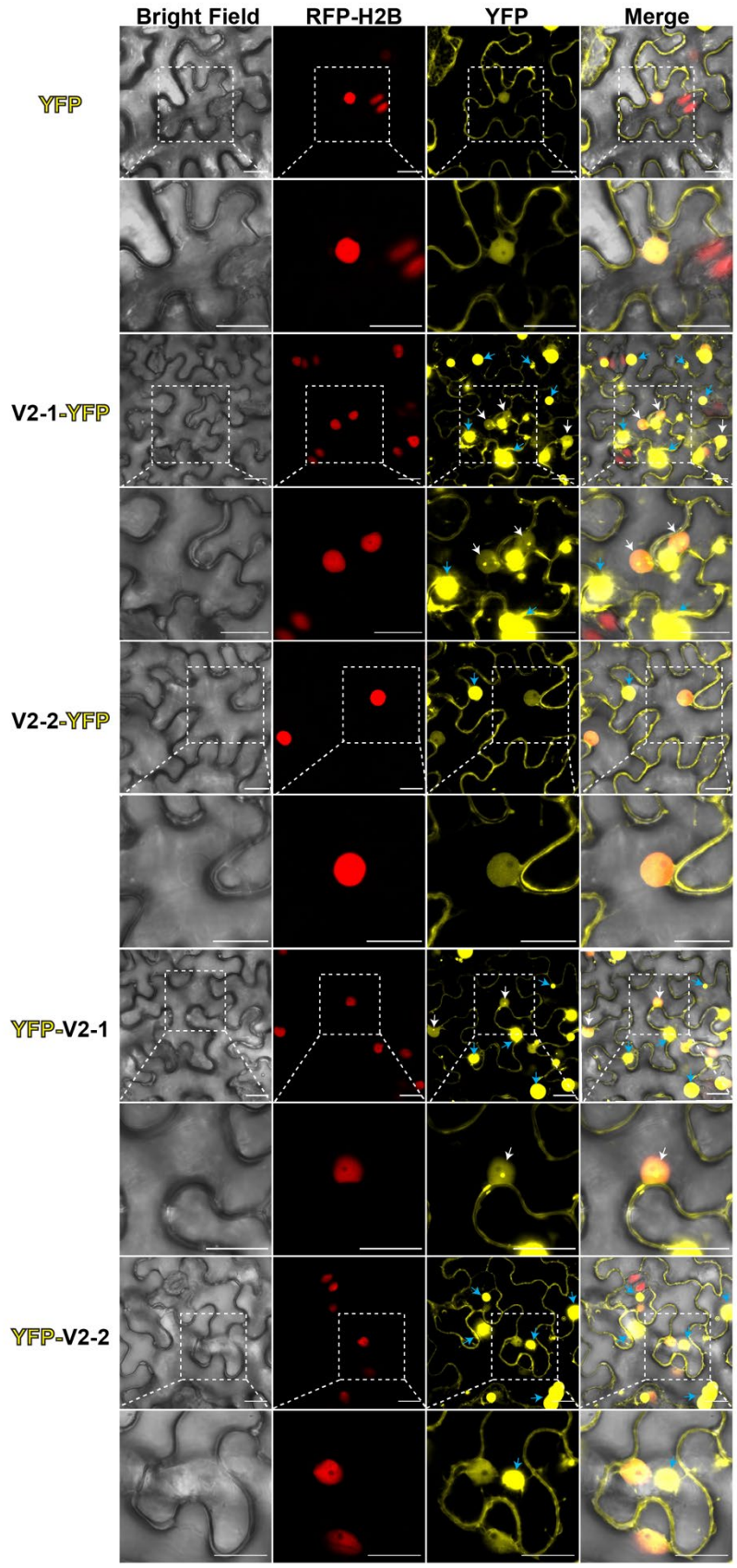
Bright Field
RFP-H2B
YFP
Merge
YFP
V2-1-YFP
V2-2-YFP
YFP-V2-1
YFP-V2-2

Figure S2 Subcellular localization of V2-1 and V2-2 in *Nicotiana benthamiana* epidermal cells. Recombinant plasmids with YFP fused to C-/N-termini of V2-1 and V2-2 were transformed into *Agrobacterium,* followed by infiltration of *N. benthamiana* leaves. Confocal microscopy observations were conducted at 2 dpi. Blue arrows indicate cytoplasmic granular aggregates; white arrows highlight nuclear aggregates. All samples were imaged under identical settings on a Zeiss LSM 980 microscope, with columns displaying bright field (cellular morphology), RFP-H2B (nuclear marker), YFP (fusion protein signal), and merged channels. Dashed boxes denote regions selected for colocalization analysis. Scale bar: 20 μm. Results were consistent across three biological replicates.