

Supplementary Table S1. The repeat variable di-residues (RVDs) from all transcription activator-like effectors (TALEs) of six *Xanthomonas citri* pv. *glycines* strains using both the HMMER3 program with the Pfam 27.0 database and AnnoTALE program¹.

| strain name | AnnoTALE name | HMMER3 | No. of Repeats | RVDs (the 12th and 13th amino acid residues of each repeat region) |
|-------------|---------------------|-----------|----------------|---|
| 8ra | TalGN3 8ra | 8ra_1 | 22.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NG-HD-HD-NG |
| | TalGM3 8ra | 8ra_2 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | TalGM4 8ra | 8ra_3 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | TalGR3 8ra | 8ra_4 | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGO3 8ra | 8ra_5 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGQ3 8ra | 8ra_6 | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD-NS-HD-NI-NG-NG |
| | TalGP3 8ra | 8ra_7 | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI-NS-HD-NS-HD-NI-NG-NG |
| | TalED3 8ra | 8ra_8 | 4.5 | NI-HD-NI-NG-NG |
| K2 | TalGN3 K2 | K2_1 | 22.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NG-HD-HD-NG |
| | TalGR3 K2 | K2_2 | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGO3 K2 | K2_3 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGQ3 K2 | K2_4 | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD-NS-HD-NI-NG-NG |
| | TalGP3 K2 | K2_5 | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI-NS-HD-NS-HD-NI-NG-NG |
| | | K2_6 | 7 | NI-NI-HD-NI-HD-NI-HD |
| | | K2_7 | 3.5 | NI-NS-HD-NG |
| | | K2_8 | | |
| SL1017 | TalGN3 SL1017 | SL1017_1 | 22.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NS-HD-HD-NG |
| | TalGM3 SL1017 | SL1017_2 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | TalGR3 SL1017 | SL1017_3 | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGO3 SL1017 | SL1017_4 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGO4 SL1017 | SL1017_5 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalHQ1 SL1017 | SL1017_6 | 16.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NG-NS-HD-NI-HD-NI-NG-NG |
| | TalGP3 SL1017 | SL1017_7 | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI-NS-HD-NS-HD-NI-NG-NG |
| | pGR4 SL1017(pseud) | SL1017_8 | 12.5 | NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGO5 SL1017 | SL1017_9 | 6.5 | NI-HD-NS-NI-HD-NS-NS |
| | | SL1017_10 | 4.5 | NI-HD-NS-NS-NI |
| | | SL1017_11 | 1.5 | HD-HD |
| | | SL1017_12 | 0.5 | NG |
| SL1018 | TalGN3 SL1018 | SL1018-1 | 34.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NS-HD-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGM3 SL1018 | SL1018-2 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | TalGM4 SL1018 | SL1018-3 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | TalGQ3 SL1018 | SL1018-4 | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD-NI-HD-NI-NG-NG |
| SL1157 | TalGN3 SL1157 | SL1157_1 | 22.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NS-HD-HD-NG |
| | TalGM3 SL1157 | SL1157_2 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | TalGR3 SL1157 | SL1157_3 | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGO3 SL1157 | SL1157_4 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGQ3 SL1157 | SL1157_5 | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD-NS-HD-NI-NG-NG |
| | TalGP3 SL1157 | SL1157_6 | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI-NI-HD-NS-HD-NI-NG-NG |
| | | SL1157_7 | 14.5 | NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | | SL1157_8 | 0.5 | NI |
| SL1045 | IGM3 SL1045 (pseud) | 1045_1 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | TalGR3 SL1045 | 1045_2 | 18.5 | NI-HD-NS-NS-NI-NI-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | IGQ3 SL1045 (pseud) | 1045_3 | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD-NS-HD-NI-NG-NG |
| | TalGP3 SL1045 | 1045_4 | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI-NS-HD-NS-HD-NI-NG-NG |
| | | 1045_5 | 12.5 | HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | | 1045_6 | 9.5 | NI-HD-NS-NS-NI-NI-NS-HD-NS-N* |
| | | 1045_7 | 6 | NI-NS-HD-NG-HD-NG |
| | | 1045_8 | 5 | NI-HD-NS-NS-NI |
| | | 1045_9 | 3.5 | HD-NI-NG-NG |
| | | 1045_10 | 2.5 | NI-HD-N* |
| | | 1045_11 | 2.5 | HD-HD-NG |
| | | 1045_12 | 0.5 | N* |
| | | 1045_13 | 0.5 | NS |
| | | 1045_14 | | |
| | | 1045_15 | | |
| | | 1045_16 | | |

¹ RVDs in red indicate TALEs that are predicted to be encoded on plasmids.

Supplementary Table S2. Clustering of the RVDs from all of the TALEs in Table S1 into six groups based on sequence similarity using the Geneious Alignment program^{1,2}.

| TALE group | AnnoTALE name | No. of Repeats | RVDs (the 12th and 13th amino acid residues of each repeat region) |
|------------|---------------|----------------|---|
| 2 | TalGN3 8ra | 22.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD-NG-HD-HD-NG |
| | TalGN3 K2 | 22.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD-NG-HD-HD-NG |
| | TalGN3 SL1017 | 22.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD- NS -HD-HD-NG |
| | TalGN3 SL1018 | 34.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD- NS -HD-HD- NS-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGN3 SL1157 | 22.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD- NS -HD-HD-NG |
| 6 | TalGM3 8ra | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGM4 8ra | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGM3 SL1017 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGM3 SL1018 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGM4 SL1018 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGM3 SL1157 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGM3 SL1045 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | K2_6 | 7 | NI-NI-HD-NI-HD-NI-HD |
| | 1045_5 | 12.5 | HD-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | 1045_7 | 6 | NI-NS-HD-NG-HD-NG |
| 1 | TalGR3 8ra | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGR3 K2 | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGR3 SL1017 | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGR3 SL1157 | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGR3 SL1045 | 18.5 | NI-HD-NS-NS-NI- NI -NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | TalGR4 SL1017 | 12.5 | NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | SL1017_10 | 4.5 | NI-HD-NS-NS-NI |
| | SL1157_7 | 14.5 | NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | 1045_6 | 9.5 | NI-HD-NS-NS-NI- NI -NS-HD-NS-N* |
| | 1045_9 | 3.5 | HD-NI-NG-NG |
| 3 | TalGO3 8ra | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGO3 K2 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGO3 SL1017 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGO3 SL1157 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGO4 SL1017 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-HD-HD-NG-NI-NS-HD-HD-NG |
| | TalGO5 SL1017 | 6.5 | NI-HD-NS-NI-HD-NS-NS |
| | K2_7 | 3.5 | NI-NS-HD- -NG |
| | SL1017_11 | 1.5 | HD-HD |
| | 1045_11 | 2.5 | HD-HD-NG |
| 4 | TalGQ3 8ra | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD-NS-HD-NI-NG-NG |
| | TalGQ3 K2 | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD-NS-HD-NI-NG-NG |
| | TalGQ3 SL1018 | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD- NI -HD-NI-NG-NG |
| | TalGQ3 SL1157 | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD-NS-HD-NI-NG-NG |
| | TalGQ3 SL1045 | 17.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD-NI-NG-NS-HD-NS-HD-NI-NG-NG |
| | TalHQ1 SL1017 | 16.5 | NI-NS-HD-NI-HD-NG-HD-NG-HD- -NG-NS-HD- NI -HD-NI-NG-NG |
| | TalED3 8ra | 4.5 | NI -HD-NI-NG-NG |
| 5 | TalGP3 8ra | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI-NS-HD-NS-HD-NI-NG-NG |
| | TalGP3 K2 | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI-NS-HD-NS-HD-NI-NG-NG |
| | TalGP3 SL1017 | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI-NS-HD-NS-HD-NI-NG-NG |
| | TalGP3 SL1157 | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI- NI -HD-NS-HD-NI-NG-NG |
| | TalGP3 SL1045 | 14.5 | NI-NI-NG-HD-NG-NG-HD-NI-NS-HD-NS-HD-NI-NG-NG |

¹The TALE groups are defined based on the clustering shown in Figure 7, with the addition of shorter and potentially incomplete TALEs from Table S1.

² RVDs in blue indicate incomplete TALEs; RVDs in red indicate residues showing differences within the same group.

Supplementary Table S3. RVDs of *X. citri* pv. *glycine* TALEs found on plasmids

| strain name | TALE group | AnnoTALE name | No. of Repeats | RVDs (the 12th and 13th amino acid residues of each repeat region) |
|------------------------|------------|---------------|----------------|--|
| 8ra P1 (plasmid) | 6 | TalGM3 8ra | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | 6 | TalGM4 8ra | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | 4 | TalED3 8ra | 4.5 | NI-HD-NI-NG-NG |
| | | | | |
| SL1017 P1 (plasmid) | 1 | TalGR3 SL1017 | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | 3 | TalGO4 SL1017 | 17.5 | NI-HD-NS-NI-HD-NS-NS-NS-NS-HD-HD-HD-NG-NI-NS-HD-HD-NG |
| SL1017 P2 | 6 | TalGM3 SL1017 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | | | | |
| SL1018 P1 (plasmid) | 6 | TalGM3 SL1018 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | 6 | TalGM4 SL1018 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | | | | |
| SL1157 P1 (plasmid) | 6 | TalGM3 SL1157 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |
| | 1 | TalGR3 SL1157 | 18.5 | NI-HD-NS-NS-NI-NS-NS-HD-NS-NI-NG-NI-NI-HD-NI-HD-NI-NG-NG |
| | | | | |
| SL1045 P1 (plasmid) | 6 | TalGM3 SL1045 | 19.5 | NI-NS-HD-NG-HD-NG-NG-HD-NI-NG-NI-NI-HD-NI-HD-NI-HD-NI-NG-NG |