

## Supplementary data

**"Type A" Response Regulators are involved in the plant-microbe interaction**

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**Supplementary Table 1.** Selected microarray data from GSE33636 to find co-over expressed genes in *Medicago truncatula*-*Sinorhizobium meliloti* interaction

| name      | Treatment                                       | Sample name | Sample Treatment                                 |
|-----------|---|-------------|--|
| GSM831907 | Nod-LCOs 6h roots biological replicate 1        | GSM831910   | Nod-LCOs 24h roots biological replicate 1        |
| GSM831908 | Nod-LCOs 6h roots biological replicate 2        | GSM831911   | Nod-LCOs 24h roots biological replicate 2        |
| GSM831909 | Nod-LCOs 6h roots biological replicate 3        | GSM831912   | Nod-LCOs 24h roots biological replicate 3        |
| GSM831913 | Nod-LCO control 6h roots biological replicate 1 | GSM831916   | Nod-LCO control 24h roots biological replicate 1 |
| GSM831914 | Nod-LCO control 6h roots biological replicate 2 | GSM831917   | Nod-LCO control 24h roots biological replicate 2 |
| GSM831915 | Nod-LCO control 6h roots biological replicate 3 | GSM831918   | Nod-LCO control 24h roots biological replicate 3 |

Microarray data were normalized in Expression console, and were analyzed in FlexyArray. To obtain co-over expressed probsets in the experiment, firstly, Bayesian t-test analysis were run to find the probsets which over-expressed in Nod-LCOs 6h compare to Nod-LCO control (comparison 1). The same analysis was run on Nod-LCOs 24h compared to Nod-LCO control 24h (comparison 2). Over expressed data were imported to Excel, and co-over expressed probsets between two comparisons were selected to further analysis in Plexdb.

**Supplementary Table 2.** List of co-over expressed genes encoded DNA binding proteins in *Medicago truncatula*/bacterium interaction.

| Up regulated DNA binding genes in <i>R. solanacearum</i> - <i>M. truncatula</i> interaction |  | Up regulated DNA binding genes in <i>S. meliloti</i> - <i>M. truncatula</i> interaction |  |
|---|--|---|--|
| Prob set  | TAIR annotation  | Prob set  | TAIR annotation                                  |
| Mtr.32159.1.S1_at; Mtr.51829.1.S1_at;<br>Mtr.51829.1.S1_s_at                                | response regulator 5   | Mtr.32159.1.S1_at;<br>Mtr.51829.1.S1_S-at   | response regulator 5                             |
| Mtr.5343.1.S1_s_at  | response regulator 7   | Mtr.5343.1.S1_at  | response regulator 7                             |
| Mtr.174.1.S1_at   | response regulator 8   | Mtr.174.1.S1_at   | response regulator 8                             |
| Mtr.12619.1.S1_at   | response regulator 9   | Mtr.17273.1.S1_at;<br>Mtr.33808.1.S1_at   | response regulator 9                             |
| Mtr.5335.1.S1_at  | response regulator 15  | Msa.3058.1.S1_at  | Ethylene-responsive transcription factor 9       |
| Mtr.19570.1.S1_at   | ethylene response factor 1   | Mtr.19570.1.S1_at   | Ethylene-responsive transcription factor 1B      |
| Mtr.10822.1.S1_at   | splicing factor 33   | Mtr.35480.1.S1_at   | Ethylene-responsive transcription factor RAP2-11 |
| Mtr.15332.1.S1_at   | MYB domain protein 14  | Mtr.22332.1.S1_at   | Transcription factor MYB1R1                      |
| Mtr.1885.1.S1_at  | basic helix-loop-helix (bHLH) DNA-<br>binding superfamily protein (bHLH18) | Mtr.39233.1.S1_at   | Auxin response factor 16                         |
| Mtr.16587.1.S1_at   | basic helix-loop-helix (bHLH) DNA-<br>binding superfamily protein (bHLH25) | Mtr.45719.1.S1_at ;<br>Mtr.8357.1.S1_at   | Transcription factor bHLH30                      |
| Mtr.37926.1.S1_a; Mtr.45719.1.S1_at   | basic helix-loop-helix (bHLH) DNA-<br>binding superfamily protein          | Mtr.32254.1.S1_at   | Zinc finger protein 6                            |

| Up regulated DNA binding genes in <i>R. solanacearum</i> / <i>M. truncatula</i> interaction |   | Up regulated DNA binding genes in <i>S.meliloti</i> / <i>M. truncatula</i> interaction |   |
|---|---|--|---|
| Prob set  | TAIR annotation   | Prob set   | TAIR annotation                             |
| Mtr.37926.1.S1_a; Mtr.45719.1.S1_at   | basic helix-loop-helix (bHLH) DNA-binding superfamily protein | Mtr.32254.1.S1_at  | Zinc finger protein 6                       |
| Mtr.41077.1.S1_at   | zinc finger protein 5   | Mtr.38349.1.S1_at  | NAC domain-containing protein 42            |
| Mtr.32254.1.S1_at   | zinc finger protein 6   | Mtr.43750.1.S1_at  | Nuclear transcription factor Y subunit A-10 |
| Mtr.38581.1.S1_at   | zinc finger (AN1-like) family protein                         | Mtr.4282.1.S1_at   | Nuclear transcription factor Y subunit B-3  |
| Mtr.18592.1.S1_at   | C2H2-type zinc finger family protein                          |  |   |
| Mtr.44379.1.S1_at; Mtr.52180.1.S1_at  | C2H2 and C2HC zinc fingers superfamily protein                |  |   |
| Mtr.1814.1.S1_at  | RING-H2 zinc finger protein RHA4a                             |  |   |
| Mtr.35677.1.S1_at; Mtr.44939.1.S1_at  | RING-H2 finger A2A  |  |   |
| Mtr.48864.1.S1_at   | Dof-type zinc finger DNA-binding family protein               |  |   |
| Mtr.12511.1.S1_at   | heat shock transcription factor B3                            |  |   |
| Mtr.39929.1.S1_at; Mtr.44462.1.S1_at  | 17.6 kDa class II heat shock protein                          |  |   |
| Mtr.44719.1.S1_at   | heat shock transcription factor A2                            |  |   |
| Mtr.11053.1.S1_at; Mtr.29902.1.S1_at;<br>Mtr.32279.1.S1_at; Mtr.52252.1.S1_at               | WRKY DNA-binding protein 33                                   |  |   |

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**Up regulated DNA binding genes in *R. solanacearum*/*M. truncatula* interaction**

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| <b>Prob set</b>   | <b>TAIR annotation</b>                                      |
|---|---|
| Mtr.48109.1.S1_at                                       | WRKY DNA-binding protein 40                                 |
| Mtr.32312.1.S1_at                                       | WRKY DNA-binding protein 50                                 |
| Mtr.24228.1.S1_at                                       | NmrA-like negative transcriptional regulator family protein |
| Mtr.11007.1.S1_at; Mtr.1814.1.S1_at; Mtr.42240.1.S1_at; | RING/U-box superfamily protein                              |
| Mtr.43917.1.S1_at; Mtr.8934.1.S1_at                     |   |
| Mtr.35248.1.S1_at                                       | Integrase-type DNA-binding superfamily protein              |
| Mtr.40776.1.S1_at                                       | SC35-like splicing factor 33                                |

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**Supplementary Table 3.** List of up regulated Expansin genes in *M. truncatula*-bacterium interaction.

| Up regulated genes encoded Expansins in <i>R. solanacearum</i> - <i>M. truncatula</i> interaction |                 | Up regulated genes encoded Expansins in in <i>S. meliloti</i> - <i>M. truncatula</i> symbiosis |                 |
|---|-----------------|--|-----------------|
| Prob set  | TAIR annotation | Prob set   | TAIR annotation |
| Mtr.19007.1.S1_at;  | expansin A10    | Mtr.41561.1.S1_at  | expansin A4     |
| Mtr.8533.1.S1_s_at  |                 |  |                 |
| Msa.2686.1.S1_at;   | expansin A15    | Mtr.31597.1.S1_at  | expansin A7     |
| Mtr.8532.1.S1_at;   |                 |  |                 |
| Mtr.8532.1.S1_s_at  |                 | Mtr.8533.1.S1_s_at   | expansin A10    |
|   |                 | Msa.2686.1.S1_at;  | expansin A15    |
|   |                 | Mtr.8532.1.S1_at;  |                 |
|   |                 | Mtr.8532.1.S1_s_at   |                 |
|   |                 | Mtr.37590.1.S1_s_at  | expansin A8     |
|   |                 | Mtr.31598.1.S1_at  | expansin A18    |
|   |                 | Mtr.33549.1.S1_at  | expansin B2     |