# ath1121501frmavecs

March 26, 2025

---

`ath1121501frmavecs` *Vectors used by fRMA for ath1121501*

---

## Description

Vectors allowing to apply the fRMA procedure on data obtained with Affymetrix Arabidopsis ATH1 Genome Array and annotated with the ATH1-121501 CDF file (GPL198 platform). This data object was automatically created by the package frmaTools version 1.52.0.

## Usage

```
data(ath1121501frmavecs)
```

## Format

A list with 6 elements.

| | |
|---|---|
| normVec | normalization vector |
| probeVec | probe effect vector |
| probeVarWithin | within batch probe variance |
| probeVarBetween | between batch probe variance |
| probesetSD | within probeset standard deviation |
| medianSE | median standard errors |

## Details

The vectors were computed based on 100 triplicates, orginating from 100 different data series available on the GPL198 platform on Gene Expression omnibus (GEO), as recommended by the authors of the frozen Robust Multiarray Analysis (McCall et al., 2010 - DOI: 10.1093/biostatistics/kxp059; McCall et Irizarry, 2011 - DOI: 10.1186/1471-2105-12-369). Those 100 triplicates were related to a large variety of study subjects, encompassing biotic treatments, abiotic stresses, control conditions (in seedlings), development (different tissues, organs, in control condition) and chemical treatments (hormones, growth regulators, ...). The following table provides the GEO sample ID corresponding to those triplicates, alongside with the GEO sample title, GEO series ID, the class (biotic, abiotic,

control, development, chemical), genotype, biomaterial (tissues, organs, cells,..), age and treatment. All this information was manually curated.

| sample | title | series |
|---|---|---|
| GSM508439 | pathogen infection: TuMV inoculated - RNA fraction: total RNA - rep1 | GSE20278 |
| GSM508440 | pathogen infection: TuMV inoculated - RNA fraction: total RNA - rep2 | GSE20278 |
| GSM508441 | pathogen infection: TuMV inoculated - RNA fraction: total RNA - rep3 | GSE20278 |
| GSM39203 | Col_Chitin1 | GSE2169 |
| GSM39204 | Col_Chitin2 | GSE2169 |
| GSM39205 | Col_Chitin3 | GSE2169 |
| GSM48125 | Col_CSC1 | GSE2538 |
| GSM48126 | Col_CSC2 | GSE2538 |
| GSM48127 | Col_CSC3 | GSE2538 |
| GSM133079 | JD AT+EO COL WT 12H INFECTED | GSE5686 |
| GSM133095 | JD AT+EO COL WT EXP2 12H INFECTED | GSE5686 |
| GSM133101 | JD AT+EO TIME EXP3 EO INF 12H | GSE5686 |
| GSM1111986 | AB Infected Col-0 leaf , biological replicate 1 | GSE45690 |
| GSM1111987 | AB Infected Col-0 leaf , biological replicate 2 | GSE45690 |
| GSM1111988 | AB Infected Col-0 leaf , biological replicate 3 | GSE45690 |
| GSM1144681 | Plant inoculated with PsJN inactivated, biological rep 1 | GSE47092 |
| GSM1144682 | Plant inoculated with PsJN inactivated, biological rep 2 | GSE47092 |
| GSM1144683 | Plant inoculated with PsJN inactivated, biological rep 3 | GSE47092 |
| GSM1521091 | Full AC2 at T1, biological rep1 | GSE62180 |
| GSM1521092 | Full AC2 at T1, biological rep2 | GSE62180 |
| GSM1521093 | Full AC2 at T1, biological rep3 | GSE62180 |
| GSM1532918 | Cocultivation at 8 hrs, biological rep1_leaf | GSE62749 |
| GSM1532919 | Cocultivation at 8 hrs, biological rep2_leaf | GSE62749 |
| GSM1532922 | Cocultivation at 8 hrs, biological rep1_root | GSE62749 |
| GSM1970346 | Col-0 roots, Fusarium treatment, replicate 2 | GSE75928 |
| GSM1970347 | Col-0 roots, Fusarium treatment, replicate 3 | GSE75928 |
| GSM1970348 | Col-0 roots, Fusarium treatment, replicate 4 | GSE75928 |
| GSM2325661 | seedling roots, 3h OGs, bio rep 1 | GSE87216 |
| GSM2325662 | seedling roots, 3h OGs, bio rep 2 | GSE87216 |
| GSM2325663 | seedling roots, 3h OGs, bio rep 3 | GSE87216 |
| GSM151700 | Col-0 48 hpi, biological replicate 1 | GSE6556 |
| GSM151701 | Col-0 48 hpi, biological replicate 2 | GSE6556 |
| GSM151702 | Col-0 48 hpi, biological replicate 3 | GSE6556 |
| GSM828864 | Leafminer damaged A.thaliana seedlings rep1 | GSE33505 |
| GSM828865 | Leafminer damaged A.thaliana seedlings rep2 | GSE33505 |
| GSM828866 | Leafminer damaged A.thaliana seedlings rep3 | GSE33505 |
| GSM298415 | A.thaliana Col-0, Flg22 4h rep1 | GSE11807 |
| GSM298418 | A.thaliana Col-0, Flg22 4h rep3 | GSE11807 |
| GSM298420 | A.thaliana Col-0, Flg22 4h rep2 | GSE11807 |
| GSM3449511 | Col-0/Psm-1, biological rep1 | GSE121886 |
| GSM3449512 | Col-0/Psm-2, biological rep2 | GSE121886 |
| GSM3449513 | Col-0/Psm-3, biological rep3 | GSE121886 |
| GSM436317 | Col PSTDC3000 24h 1st rep | GSE17500 |
| GSM436318 | Col PSTDC3000 24h 2nd rep | GSE17500 |

| | | |
|---|---|---|
| GSM436319 | Col PSTDC3000 24h 3rd rep | GSE17500 |
| GSM469414 | DeVos_1-2_Treatment_Rep1_ATH1 | GSE18960 |
| GSM469416 | DeVos_1-4_Treatment_Rep2_ATH1 | GSE18960 |
| GSM469418 | DeVos_1-6_Treatment_Rep3_ATH1 | GSE18960 |
| GSM469763 | Mitra_2-7_Col0-PsmES4326-24hpi_Rep1_ATH1 | GSE18978 |
| GSM469764 | Mitra_2-8_Col0-PsmES4326-24hpi_Rep2_ATH1 | GSE18978 |
| GSM469765 | Mitra_2-9_Col0-PsmES4326-24hpi_Rep3_ATH1 | GSE18978 |
| GSM545384 | colptobis_2 with array type ATH1 from Affymetrix | GSE21920 |
| GSM545385 | colptobis_1 with array type ATH1 from Affymetrix | GSE21920 |
| GSM545386 | colptobis_3 with array type ATH1 from Affymetrix | GSE21920 |
| GSM605343 | Pseudomonas-treatment 1 | GSE24552 |
| GSM605344 | Pseudomonas-treatment 2 | GSE24552 |
| GSM605345 | Pseudomonas-treatment 3 | GSE24552 |
| GSM921521 | Arab_GiantCell_Root_14d_BioRep1 | GSE37553 |
| GSM921522 | Arab_GiantCell_Root_14d_BioRep2 | GSE37553 |
| GSM921523 | Arab_GiantCell_Root_14d_BioRep3 | GSE37553 |
| GSM5597522 | Col 6h wound A | GSE184793 |
| GSM5597523 | Col 6h wound B | GSE184793 |
| GSM5597524 | Col 6h wound C | GSE184793 |
| GSM2769932 | Wild-type seedlings, primed and triggered, biological rep2 | GSE103398 |
| GSM2769933 | Wild-type seedlings, primed and triggered, biological rep3 | GSE103398 |
| GSM2769931 | Wild-type seedlings, primed and triggered, biological rep1 | GSE103398 |
| GSM265411 | Arabidopsis, whole roots, -Fe, replicate 1 | GSE10496 |
| GSM265412 | Arabidopsis, whole roots, -Fe, replicate 2 | GSE10496 |
| GSM265413 | Arabidopsis, whole roots, -Fe, replicate 3 | GSE10496 |
| GSM2340100 | Low blue light, rep1 | GSE87770 |
| GSM2340101 | Low blue light, rep2 | GSE87770 |
| GSM2340102 | Low blue light, rep3 | GSE87770 |
| GSM1444203 | Col upon hypoxia under light submergence for 48 h, biological rep1 | GSE59719 |
| GSM1444204 | Col upon hypoxia under light submergence for 48 h, biological rep2 | GSE59719 |
| GSM1444205 | Col upon hypoxia under light submergence for 48 h, biological rep3 | GSE59719 |
| GSM290628 | rosettes_drought_rep1 | GSE11538 |
| GSM290629 | rosettes_drought_rep2 | GSE11538 |
| GSM290630 | rosettes_drought_rep3 | GSE11538 |
| GSM451832 | WT_3h_-P_rep1 | GSE18071 |
| GSM451833 | WT_3h_-P_rep2 | GSE18071 |
| GSM451834 | WT_3h_-P_rep3 | GSE18071 |
| GSM604644 | seedling 24h light, (+Lin), rep1 | GSE24517 |
| GSM604645 | seedling 24h light, (+Lin), rep2 | GSE24517 |
| GSM604646 | seedling 24h light, (+Lin), rep3 | GSE24517 |
| GSM852939 | leaf_Col_ozone_2d_biological rep1 | GSE34667 |
| GSM852940 | leaf_Col_ozone_2d_biological rep2 | GSE34667 |
| GSM852941 | leaf_Col_ozone_2d_biological rep3 | GSE34667 |
| GSM989196 | wild type (Col) glucose treatment, biological rep1 | GSE40245 |
| GSM989197 | wild type (Col) glucose treatment, biological rep2 | GSE40245 |
| GSM989198 | wild type (Col) glucose treatment, biological rep3 | GSE40245 |
| GSM1415488 | light-hs, rep1 | GSE58616 |
| GSM1415489 | light-hs, rep2 | GSE58616 |

| | | |
|---|---|---|
| GSM1415490 | light-hs, rep3 | GSE58616 |
| GSM1446768 | TiO2 treated germinant, biological rep1 | GSE59809 |
| GSM1446769 | TiO2 treated germinant, biological rep2 | GSE59809 |
| GSM1446770 | TiO2 treated germinant, biological rep3 | GSE59809 |
| GSM347118 | Arabidopsis rosette_Light Wounded_Rep3 | GSE13803 |
| GSM347112 | Arabidopsis rosette_Light Wounded_Rep1 | GSE13803 |
| GSM347114 | Arabidopsis rosette_Light Wounded_Rep2 | GSE13803 |
| GSM4125057 | wt Cd100 rep 1 | GSE138943 |
| GSM4125058 | wt Cd100 rep 2 | GSE138943 |
| GSM4125059 | wt Cd100 rep 3 | GSE138943 |
| GSM392180 | WT-16degreeC-RepA | GSE15689 |
| GSM392263 | WT-16degreeC-RepB | GSE15689 |
| GSM392273 | WT-16degreeC-RepC | GSE15689 |
| GSM5584760 | col submerged for 48h, biological rep1 | GSE184340 |
| GSM5584761 | col submerged for 48h, biological rep2 | GSE184340 |
| GSM5584762 | col submerged for 48h, biological rep3 | GSE184340 |
| GSM539316 | WT-sib, treatment N-L+, 1 biological rep | GSE21601 |
| GSM539317 | WT-sib, treatment N-L+, 2 biological rep | GSE21601 |
| GSM539318 | WT-sib, treatment N-L+, 3 biological rep | GSE21601 |
| GSM566862 | Split KNO3 roots - 2hours - repeat 2 | GSE22966 |
| GSM566863 | Split KNO3 roots - 2hours - repeat 3 | GSE22966 |
| GSM566861 | Split KNO3 roots - 2hours - repeat 1 | GSE22966 |
| GSM643107 | leaf 30%Inhibition rep1 [Arabidopsis] | GSE26197 |
| GSM643108 | leaf 30%Inhibition rep2 [Arabidopsis] | GSE26197 |
| GSM643110 | leaf 30%Inhibition rep4 [Arabidopsis] | GSE26197 |
| GSM901075 | osmotic_10day_leaf_rep1 | GSE36789 |
| GSM901076 | osmotic_10day_leaf_rep2 | GSE36789 |
| GSM901077 | osmotic_10day_leaf_rep3 | GSE36789 |
| GSM2896650 | Columbia, biological rep1 | GSE108376 |
| GSM2896651 | Columbia, biological rep2 | GSE108376 |
| GSM2896652 | Columbia, biological rep3 | GSE108376 |
| GSM3639524 | seedings under mock treatment, biological rep1 | GSE127830 |
| GSM3639525 | seedings under mock treatment, biological rep2 | GSE127830 |
| GSM3639526 | seedings under mock treatment, biological rep3 | GSE127830 |
| GSM538647 | Seedlings untreated, biological rep1 | GSE21556 |
| GSM538648 | Seedlings untreated, biological rep2 | GSE21556 |
| GSM538649 | Seedlings untreated, biological rep3 | GSE21556 |
| GSM542673 | control_4h-1 | GSE21786 |
| GSM542674 | control_4h-2 | GSE21786 |
| GSM542675 | control_4h-3 | GSE21786 |
| GSM1028173 | Col-0 biological rep1 | GSE41958 |
| GSM1028174 | Col-0 biological rep2 | GSE41958 |
| GSM1028175 | Col-0 biological rep3 | GSE41958 |
| GSM250982 | Col-0 without treatment, biological rep1 | GSE9957 |
| GSM250983 | Col-0 without treatment, biological rep2 | GSE9957 |
| GSM250984 | Col-0 without treatment, biological rep3 | GSE9957 |
| GSM1202382 | Col-0, WT, at HL 0h, biological rep1 | GSE49596 |
| GSM1202383 | Col-0, WT, at HL 0h, biological rep2 | GSE49596 |

| | | |
|---|---|---|
| GSM1202384 | Col-0, WT, at HL 0h, biological rep3 | GSE49596 |
| GSM1257966 | WT complete, biological rep1 | GSE52046 |
| GSM1257967 | WT complete, biological rep2 | GSE52046 |
| GSM1257968 | WT complete, biological rep3 | GSE52046 |
| GSM128757 | Mittler_2-1_wildtype_Rep1_ATH1 | GSE5530 |
| GSM128758 | Mittler_2-2_wildtype_Rep2_ATH1 | GSE5530 |
| GSM128759 | Mittler_2-3_wildtype_Rep3_ATH1 | GSE5530 |
| GSM1875295 | WT_rep1 | GSE72954 |
| GSM1875296 | WT_rep2 | GSE72954 |
| GSM1875297 | WT_rep3 | GSE72954 |
| GSM9595 | Col_control_I_1 | GSE629 |
| GSM9596 | Col_control_I_2 | GSE629 |
| GSM9597 | Col_control_I_3 | GSE629 |
| GSM2144831 | Col-0, biological rep1 | GSE81218 |
| GSM2144832 | Col-0, biological rep2 | GSE81218 |
| GSM2144833 | Col-0, biological rep3 | GSE81218 |
| GSM591834 | WT mock treated_biological rep 1 | GSE24052 |
| GSM591835 | WT mock treated_biological rep 2 | GSE24052 |
| GSM591836 | WT mock treated_biological rep 3 | GSE24052 |
| GSM617578 | Col, rep1 | GSE25134 |
| GSM617579 | Col, rep2 | GSE25134 |
| GSM617580 | Col, rep3 | GSE25134 |
| GSM656490 | Col-0, 0 hrs, bio rep 2 | GSE26679 |
| GSM656491 | Col-0, 0 hrs, bio rep 3 | GSE26679 |
| GSM656492 | Col-0, 0 hrs, bio rep 4 | GSE26679 |
| GSM738872 | Col-0 WT seedling at 5 dpg, biological rep2 | GSE29814 |
| GSM738873 | Col-0 WT seedling at 5 dpg, biological rep3 | GSE29814 |
| GSM738874 | Col-0 WT seedling at 5 dpg, biological rep4 | GSE29814 |
| GSM761617 | Columbia_0min_biorep1 | GSE30702 |
| GSM761620 | Columbia_0min_biorep4 | GSE30702 |
| GSM761621 | Columbia_0min_biorep5 | GSE30702 |
| GSM856033 | seedling at 14 day_mock treatment_biological replica 1 | GSE34837 |
| GSM856034 | seedling at 14 day_mock treatment_biological replica 2 | GSE34837 |
| GSM856035 | seedling at 14 day_mock treatment_biological replica 3 | GSE34837 |
| GSM686101 | wild type Col-0, rep1 | GSE27704 |
| GSM686102 | wild type Col-0, rep2 | GSE27704 |
| GSM686103 | wild type Col-0, rep3 | GSE27704 |
| GSM1304062 | Leaves mock treated 3 h, biological rep1 | GSE53957 |
| GSM1304063 | Leaves mock treated 3 h, biological rep2 | GSE53957 |
| GSM1304064 | Leaves mock treated 3 h, biological rep3 | GSE53957 |
| GSM2482338 | Col-0 developing seeds, 10-11 days after flower opening, biological replicate 1 [re-analysis] | GSE94763 |
| GSM2482339 | Col-0 developing seeds, 10-11 days after flower opening, biological replicate 2 [re-analysis] | GSE94763 |
| GSM2482340 | Col-0 developing seeds, 10-11 days after flower opening, biological replicate 3 [re-analysis] | GSE94763 |
| GSM142750 | MJ001_ATH1_A1-jones-WT1 | GSE6165 |
| GSM142751 | MJ001_ATH1_A2-jones-WT2 | GSE6165 |
| GSM142754 | MJ001_ATH1_A5-jones-WT-Rep3 | GSE6165 |
| GSM184901 | Arabidopsis, root cells, stele, standard conditions, replicate 1 | GSE7641 |
| GSM184902 | Arabidopsis, root cells, stele, standard conditions, replicate 2 | GSE7641 |

| | | |
|---|---|---|
| GSM184903 | Arabidopsis, root cells, stele, standard conditions, replicate 3 | GSE7641 |
| GSM131831 | Quick_A27_0-0hr_Rep2_ATH1 | GSE5639 |
| GSM131833 | Quick_A53_0-0hr_Rep3_ATH1 | GSE5639 |
| GSM131835 | Quick_A79_0-0hr_Rep4_ATH1 | GSE5639 |
| GSM1511283 | wild-type (Col-0) 8 DAF Seed 1 | GSE61684 |
| GSM1511284 | wild-type (Col-0) 8 DAF Seed 2 | GSE61684 |
| GSM1511285 | wild-type (Col-0) 8 DAF Seed 3 | GSE61684 |
| GSM133978 | Birnbaum_1-8_StageII-1_Rep1_ATH1 | GSE5749 |
| GSM133979 | Birnbaum_1-9_StageII-2_Rep2_ATH1 | GSE5749 |
| GSM133980 | Birnbaum_1-10_StageII-3_Rep3_ATH1 | GSE5749 |
| GSM133767 | Lindsey_1-19_torpedo-basal_Rep4_ATH1 | GSE5730 |
| GSM133768 | Lindsey_1-20_torpedo-basal_Rep5_ATH1 | GSE5730 |
| GSM133769 | Lindsey_1-21_torpedo-basal_Rep6_ATH1 | GSE5730 |
| GSM128782 | Somerville_1-5_flower-GC6_Rep2_ATH1 | GSE5533 |
| GSM128783 | Somerville_1-6_flower-GH5_Rep1_ATH1 | GSE5533 |
| GSM128784 | Somerville_1-7_flower-GH6_Rep2_ATH1 | GSE5533 |
| GSM1296372 | WT(Col-0), biological rep1 | GSE53580 |
| GSM1296373 | WT(Col-0), biological rep2 | GSE53580 |
| GSM1296374 | WT(Col-0), biological rep3 | GSE53580 |
| GSM1133319 | Day Time Control 1 | GSE46621 |
| GSM1133320 | Day Time Control 2 | GSE46621 |
| GSM1133321 | Day Time Control 3 | GSE46621 |
| GSM1091681 | Columbia Clipped_Biol_Rep 1 | GSE44781 |
| GSM1091682 | Columbia Clipped_Biol_Rep 2 | GSE44781 |
| GSM1091683 | Columbia Clipped_Biol_Rep 3 | GSE44781 |
| GSM871248 | pericycle control 1 | GSE35580 |
| GSM871249 | pericycle control 2 | GSE35580 |
| GSM871250 | pericycle control 3 | GSE35580 |
| GSM131540 | ATGE_26_A | GSE5630 |
| GSM131541 | ATGE_26_B | GSE5630 |
| GSM131542 | ATGE_26_C | GSE5630 |
| GSM390161 | lateral nectary, stage 14-15 rep1 | GSE15601 |
| GSM390162 | lateral nectary, stage 14-15 rep2 | GSE15601 |
| GSM390163 | lateral nectary, stage 14-15 rep3 | GSE15601 |
| GSM2044875 | Empty vector plants without DEX treatment at T9, biological rep1 | GSE77153 |
| GSM2044876 | Empty vector plants without DEX treatment at T9, biological rep2 | GSE77153 |
| GSM2044877 | Empty vector plants without DEX treatment at T9, biological rep3 | GSE77153 |
| GSM184503 | Pericycle root cells 2hr KCl control treated, biological rep1 | GSE7631 |
| GSM184504 | Pericycle root cells 2hr KCl control treated, biological rep2 | GSE7631 |
| GSM184505 | Pericycle root cells 2hr KCl control treated, biological rep3 | GSE7631 |
| GSM1509558 | ScionFlowerBud1 | GSE61631 |
| GSM1509559 | ScionFlowerBud2 | GSE61631 |
| GSM1509560 | ScionFlowerBud3 | GSE61631 |
| GSM1535437 | Cells whole embryo, biological rep 1 | GSE60242 |
| GSM1535438 | Cells whole embryo, biological rep 2 | GSE60242 |
| GSM1535439 | Cells whole embryo, biological rep 3 | GSE60242 |
| GSM1289220 | Col-0 plants under control conditions, rep1 | GSE53308 |
| GSM1289221 | Col-0 plants under control conditions, rep2 | GSE53308 |

| | | |
|---|---|---|
| GSM1289222 | Col-0 plants under control conditions, rep3 | GSE53308 |
| GSM433643 | 4hPT, biological rep2 | GSE17343 |
| GSM433644 | 4hPT, biological rep3 | GSE17343 |
| GSM433645 | 4hPT, biological rep4 | GSE17343 |
| GSM325126 | auxin-treated seedlings, biological rep1 | GSE12964 |
| GSM325127 | auxin-treated seedlings, biological rep2 | GSE12964 |
| GSM325128 | auxin-treated seedlings, biological rep3 | GSE12964 |
| GSM373534 | SA treated, biological rep1 | GSE14961 |
| GSM373535 | SA treated, biological rep2 | GSE14961 |
| GSM373536 | SA treated, biological rep3 | GSE14961 |
| GSM469825 | Gronlund_1-21_BR3+GA-180mins_Rep3_ATH1 | GSE18985 |
| GSM469832 | Gronlund_1-14_BR2+GA-180mins_Rep2_ATH1 | GSE18985 |
| GSM469839 | Gronlund_1-7_BR1+GA-180mins_Rep1_ATH1 | GSE18985 |
| GSM679546 | Mature 1-1 | GSE27508 |
| GSM679547 | Mature 1-2 | GSE27508 |
| GSM679548 | Mature 1-3 | GSE27508 |
| GSM713255 | ABA_3 | GSE28800 |
| GSM713256 | ABA_2 | GSE28800 |
| GSM713257 | ABA_1 | GSE28800 |
| GSM744705 | SAM_L-AOPP_Rep1 | GSE30092 |
| GSM744706 | SAM_L-AOPP_Rep2 | GSE30092 |
| GSM744707 | SAM_L-AOPP_Rep3 | GSE30092 |
| GSM1053027 | Roots at T2 naxillin, rep1 | GSE42896 |
| GSM1053028 | Roots at T2 naxillin, rep2 | GSE42896 |
| GSM1053029 | Roots at T2 naxillin, rep3 | GSE42896 |
| GSM1399594 | PEO-IAA replicate1 | GSE58028 |
| GSM1399595 | PEO-IAA replicate2 | GSE58028 |
| GSM1399596 | PEO-IAA replicate3 | GSE58028 |
| GSM1516365 | Col-0 leaves, MeJA treatment, replicate 2 | GSE61884 |
| GSM1516366 | Col-0 leaves, MeJA treatment, replicate 3 | GSE61884 |
| GSM1516367 | Col-0 leaves, MeJA treatment, replicate 4 | GSE61884 |
| GSM269475 | Col-0, 24h after BTH, rep-A | GSE10646 |
| GSM269477 | Col-0, 24h after BTH, rep-B | GSE10646 |
| GSM269478 | Col-0, 24h after BTH, rep-C | GSE10646 |
| GSM297833 | tunicamycin_rep2 | GSE11758 |
| GSM297839 | tunicamycin_rep3 | GSE11758 |
| GSM297843 | tunicamycin_rep5 | GSE11758 |
| GSM323078 | Col-0_norflurazon_1 | GSE12887 |
| GSM323079 | Col-0_norflurazon_2 | GSE12887 |
| GSM323080 | Col-0_norflurazon_3 | GSE12887 |
| GSM347944 | Col-0_DCA_6d_rep1 | GSE13833 |
| GSM347945 | Col-0_DCA_6d_rep2 | GSE13833 |
| GSM347946 | Col-0_DCA_6d_rep3 | GSE13833 |
| GSM469812 | Rylott_1-3_TNT-treated-seedlings_Rep3_ATH1 | GSE18983 |
| GSM469813 | Rylott_1-2_TNT-treated-seedlings_Rep2_ATH1 | GSE18983 |
| GSM469814 | Rylott_1-1_TNT-treated-seedlings | GSE18983 |
| GSM702591 | Skipsey_1-16_CMP_24hr_Rep1_ATH1 | GSE28431 |
| GSM702592 | Skipsey_1-17_CMP_24hr_Rep2_ATH1 | GSE28431 |

| | | |
|---|---|---|
| GSM702593 | Skipsey_1-18_CMP_24hr_Rep3_ATH1 | GSE28431 |
| GSM4693848 | Columbia0_Pakerine_1 | GSE155026 |
| GSM4693849 | Columbia0_Pakerine_2 | GSE155026 |
| GSM4693850 | Columbia0_Pakerine_3 | GSE155026 |
| GSM952979 | seedling culture at 4 h_EtOH_biol rep 1 | GSE38965 |
| GSM952980 | seedling culture at 4 h_EtOH_biol rep 2 | GSE38965 |
| GSM952981 | seedling culture at 4 h_EtOH_biol rep 3 | GSE38965 |
| GSM1375895 | NAA +AA 1 | GSE57140 |
| GSM1375896 | NAA +AA 2 | GSE57140 |
| GSM1375897 | NAA +AA 3 | GSE57140 |
| GSM1541887 | LTN006-2, aza-dc Rep1 | GSE63131 |
| GSM1541888 | LTN007-2, aza-dc Rep2 | GSE63131 |
| GSM1541889 | LTN008-2, aza-dc Rep3 | GSE63131 |
| GSM157382 | Sakakibara_1-1_TZ-treatment-wild_Rep1_ATH1 | GSE6832 |
| GSM157383 | Sakakibara_1-2_TZ-treatment-wild_Rep2_ATH1 | GSE6832 |
| GSM157384 | Sakakibara_1-3_TZ-treatment-wild_Rep3_ATH1 | GSE6832 |

## Examples

```
data(ath1121501frmavecs)
str(ath1121501frmavecs)
```

# Index