|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table S4: Spliceosomal and NTC complex associated genes (from Koncz *et al*., 2012) changing in expression and/or alternative splicing in *sac3a* mutant.** For more details see supplemental tables S4-S8. A3: alternative 3’ splice site; A5: alternative 5’ splice site; EI: exitron; ES: exon skipping; IR: intron retention. | | | | |
| **Common name** | **Gene** | **Differential gene expression** | **Differential alternative splicing** | **Protein annotation according to Koncz *et al*., 2012** |
| **Sm core proteins** | | | | |
| SmD1 | AT3G07590 | up-regulated | - | atSmD1-a Small nuclear ribonucleoprotein |
| SmD3 | AT1G76300 | up-regulated | - | atSmD3-a Small nuclear ribonucleoprotein |
| SmE | AT4G30330 | up-regulated | - | AtSmE-a Small nuclear ribonucleoprotein |
| SmE | AT2G18740 | up-regulated | - | atSmE-b Small nuclear ribonucleoprotein |
| RUXF | AT4G30220 | up-regulated | - | atSmF; small nuclear ribonucleoprotein F RUFX |
| **Lsm core proteins** | | | | |
| LSm6B | AT2G43810 | up-regulated | - | atLSM6b U6 snRNA-associated Sm-like protein LSm6 |
| LSm8 | AT1G65700 | up-regulated | - | atLSM8 U6 snRNA-associated SM-like protein LSm8 |
|  | AT2G18740 | up-regulated | - | putative small nuclear ribonucleoprotein |
| **U1 snRNP** | | | | |
| U1-70K | AT3G50670 | - | IR | atU1-70K |
| **Splice site selection** | | | | |
| AtU2AF65A | AT4G36690 | - | A3, EI | atU2AF65a/AULb Splicing factor U2af large subunit A |
| AtSF1 | AT5G51300 | - | IR | atSF1/BBP splicing factor 1 |
| **17S U2 snRNP** | | | | |
| AtSAP114-1a | AT1G14650 | up-regulated | - | atSAP114-1a splicing factor 3A subunit 1 |
| AtSAP114-1b | AT1G14640 | up-regulated | - | atSAP114-1b SWAP (Suppressor-of-White-APricot) domain |
| atSAP130b | AT3G55220 | up-regulated | - | atSAP130b putative splicing factor |
| SF3b10 | AT3G23325 | up-regulated | - | SF3b10b RDS3 complex subunit 10 |
| **17S U2 associated** | | | | |
| AtPrp5-1b | AT1G20920 | up-regulated | IR | atPrp5-1b DEAD-box ATP-dependent RNA helicase 42 |
| **U5 snRNP** | | | | |
| AtU5-220/Prp8b | AT4G38780 | up-regulated | - | atU5-220/Prp8b Pre-mRNA-processing-splicing factor |
| STA1/AtU5-102KD | AT4G03430 | - | IR | atU5-102KD, STABILIZED 1 (STA1); EMB2770 |
| **U4/U6 snRNP** | | | | |
| ROC2 | AT3G56070 | up-regulated | - | ROTAMASE CYCLOPHILIN 2 (ROC2) |
| AtTri15.5-1c | AT4G22380 | up-regulated | - | atU4/U6-15.5c Ribosomal protein L7Ae/L30e/S12e/Gadd45 family protein |
| AtTri15.5-1a | AT5G20160 | up-regulated | - | atU4/U6-15.5a U4/U6 small nuclear ribonucleoprotein SNU13 |
| AtTri15.5-1b | AT4G12600 | up-regulated | - | atU4/U6-15.5b |
| PRP24 | AT4G24270 | up-regulated | - | PRP24, EMB140 |
| **U11/U12 specific** | | | | |
| AtU11/U12-25K | AT3G07860 | up-regulated | - | atU11/U12-25K U11/U12 small nuclear ribonucleoprotein |
| **Core NTC** | | | | |
| PRL2 | AT3G16650 | up-regulated | - | PRL2 |
| **NTC-associated** | | | | |
| fSAP47, ECM2 | AT5G07060 | up-regulated | - | atECM2-2 zinc finger CCCH domain-containing protein 53 |
| CCAP1, HSPA8 | AT3G12580 | down-regulated | - | HSP70 heat shock protein 70-4 |
| AtCypE1a/CYP2 | AT2G21130 | up-regulated | - | atCypE1a/CYP2 Peptidyl-prolyl cis-trans isomerase CYP19-2 |
| AtCypE2a/ROC3 | AT2G16600 | up-regulated | - | atCypE2a/ROC3 |
| CYP71 | AT3G44600 | up-regulated | - | CYP71 |
| AtAquarius | AT2G38770 | up-regulated | - | atAquarius EMB2765 |
| AtPRP2-1b | AT2G35340 | up-regulated | - | atPrp2b maternal effect embryo arrest 29; MEE29 |
| GPKOW | AT4G25020 | up-regulated | - | D111/G-patch domain-containing protein |
| **Disassembly Proteins** | | | | |
| AtPRP43 | AT3G62310 | - | A3 | atPrp43-2a ATP-dependent RNA helicase DHX15 |
| AtTFIP11/TIP39b/NTR1 | AT2G42330 | up-regulated | - | GC-rich DNA-binding factor-like when Tuftelin interacting domain |
| **SR and SR-related proteins** | | | | |
| At-SCL33 | AT1G55310 | - | IR x 2 | atSR33/atSCL33 |
| At-SR34 | AT1G02840 | - | A3 x 2 | SR1, ATSR34 Pre-mRNA-splicing factor SF2 |
| At-SR34b | AT4G02430 | - | IR x 2 | splicing factor SR1B, AtSR34b splicing factor SR1B |
| At-RS31a | AT2G46610 | - | A5, IR | atRSp32 |
| At-RS31 | AT3G61860 | down-regulated | A3, IR x 2 | atRSp31 |
| At-RS41 | AT5G52040 | - | IR x 2 | atRSp41 |
| At-RS40 | AT4G25500 | - | A5, IR | atRSp40/atRSP35 |
| SR45a | AT1G07350 | - | ES | atTra/SFRS1 RNA recognition motif-containing protein |
|  | AT1G10890 | - | IR x 3 | Arginine and glutamate-rich protein 1 |
| **SR protein kinase** | | | | |
| AFC3/AME3 | AT4G32660 | down-regulated | IR | AME3 serine/threonine-protein kinase AFC3 |
| SRPK3 | AT5G22840 | up-regulated | - | atSRPK2a protein kinase family protein |
| **Glycine-rich RNA binding proteins** | | | | |
| GR-RBP6 | AT1G18630 | up-regulated | - | atGRBP1a glycine-rich RNA-binding protein 6; GR-RBP6 |
| GR-RBP3 | AT5G61030 | up-regulated | - | atGRBP1e glycine-rich RNA-binding protein 3; GR-RBP3 |
| AtGRP2 | AT4G13850 | up-regulated | IR | atGRBP1c GLYCINE-RICH RNA-BINDING PROTEIN 2; GR-RBP2 |
| AtGRP7/CCR2 | AT2G21660 | up-regulated | A3 x 3, A5 x 7, EI x 3, IR | AtGRP7/atGRBP3a CCR2, GLYCINE-RICH RNA-BINDING PROTEIN 7; GR-RBP7; GRP7 |
| AtGRP8/CCR1 | AT4G39260 | - | A3, A5, EI, IR x 2 | AtGRP8/atGRBP3b ATGRP8; CCR1 |
| **hnRNP family** | | | | |
| AtRNPA/B\_6 | AT3G07810 | up-regulated | - | RNA recognition motif-containing protein |
| AtRNPA/B\_8a | AT5G40490 | up-regulated | - | AtRNPA/B\_8a heterogeneous nuclear ribonucleoprotein A1/A3 |
| UBA2a | AT3G56860 | - | IR | UBA2a UBP1-associated protein 2A |
| UBA2b | AT2G41060 | up-regulated | IR | UBA2b RNA recognition motif-containing protein |
| FLK | AT3G04610 | - | IR x 2 | FLK; flowering locus KH domain, at-hnRNP-E |
| hnRNP F/hnRNP H | AT5G66010 | - | IR | RNA recognition motif-containing protein athnRNP-H/AtRNPH/F\_1 |
| AtRBP47a | AT1G49600 | up-regulated | - | AtRBP47a RNA-binding protein 47A |
| **mRNA binding proteins** | | | | |
| AtPABP4/AtPAB4 | AT2G23350 | up-regulated | - | PAB4 |
| **A complex associated** | | | | |
| CDKG1 | AT5G63370 | up-regulated | A3, A5 x 2, IR x 4 | cell division cycle 2-like protein |
| **B complex associated** | | | | |
| SKB1 | AT4G31120 | up-regulated | - | SKB1 |
| **Recruited prior to Bact complex** | | | | |
| atNPC2b | AT2G16940 | down-regulated | A3 | splicing factor, CC1-like protein |
| PRP4KB | AT1G13350 | down-regulated | A5 x 3 | protein kinase domain-containing protein |
| **Detected in Bact complex** | | | | |
| SED3 | AT1G05460 | up-regulated | - | SILENCING DEFECTIVE; SED3 |
| **Abundant first in C complex** | | | | |
| AtCYP71 | AT3G44600 | up-regulated | - | CYP71 |
| AtPPIL3 | AT1G01940 | up-regulated | - | peptidyl-prolyl cis-trans isomerase-like 3 |
| CypRS64 | AT3G63400 | up-regulated | IR | cyclophilin-like peptidyl-prolyl cis-trans isomerase family protein |
| CDKG1 | AT5G63370 | up-regulated | A3, A5 x 2, RI x 4 | cell division cycle 2-like protein |
| RACK1B | AT1G48630 | up-regulated | - | receptor for activated C kinase 1B |
| RACK1C | AT3G18130 | up-regulated | - | receptor for activated C kinase 1C |
| ATTIP49A/RIN1 | AT5G22330 | up-regulated | - | RIN1; RESISTANCE TO P. SYRINGAE INTERACTOR 1 |
| **EJC/mRNP** | | | | |
| AtUAP56b | AT5G11170 | - | A5 | atUAP56b DEAD-box ATP-dependent RNA helicase 56 |
|  | AT3G58570 | up-regulated | - | DEAD-box ATP-dependent RNA helicase 52 |
| **TREX complex** | | | | |
| ALY4/DIP2 | AT5G37720 | - | IR | atALY-2a ALWAYS EARLY 4 THO complex subunit 4 |
| ALY3/DIP1 | AT1G66260 | - | IR | atALY-2b RNA recognition motif-containing protein |
| AtTHO5 | AT5G42920 | up-regulated | - | THO5 |
| **Exosome** | | | | |
| RRP46 | AT3G46210 | up-regulated | - | Exosome complex subunit RRP46 |
| RRP6 | AT5G35910 | up-regulated | - | Exosome complex exonuclease RRP6 |

Koncz C, Dejong F, Villacorta N, Szakonyi D, Koncz Z (2012) The spliceosome-activating complex: molecular mechanisms underlying the function of a pleiotropic regulator. Front Plant Sci 3: 9