

Table S5. Detailed annotation of the sucrose and starch pathway genes and RNA-seq mapping.

| EC number | Sugarcane gene | # RNA-seq reads mapped | Enzyme product |
|-------------|----------------------|------------------------|---|
| ec:2.4.1.12 | SHCRBa_170_C07_R_370 | 6237 | cellulose synthase |
| ec:2.4.1.13 | SHCRBa_119_B13_R_140 | 1698 | sucrose synthase |
| ec:2.4.1.13 | SHCRBa_008_B11_R_90 | 918 | sucrose synthase |
| ec:2.4.1.14 | SHCRBa_014_G09_R_60 | 341 | sucrose phosphate synthase |
| ec:2.4.1.14 | SHCRBa_001_G20_F_90 | 235 | sucrose phosphate synthase |
| ec:2.4.1.14 | SHCRBa_063_N24_F_230 | 224 | sucrose phosphate synthase |
| ec:2.4.1.14 | SHCRBa_179_G22_F_90 | 207 | sucrose phosphate synthase |
| ec:2.4.1.14 | SHCRBa_181_K17_F_90 | 174 | sucrose phosphate synthase |
| ec:2.4.1.18 | SHCRBa_082_J13_F_70 | 3625 | 1,4-alpha-glucan branching enzyme |
| ec:2.4.1.21 | SHCRBa_260_G18_F_100 | 547 | starch synthase |
| ec:2.7.7.27 | SHCRBa_026_K06_F_10 | 5065 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_078_K12_F_350 | 3418 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_003_M06_R_10 | 1295 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_119_J13_R_150 | 501 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_073_J10_R_160 | 448 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_033_L20_R_100 | 448 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_027_I16_R_250 | 443 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_009_B01_R_20 | 79 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_012_A01_R_60 | 63 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_022_D05_R_200 | 22 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.27 | SHCRBa_022_D05_R_110 | 4 | glucose-1-phosphate adenylyltransferase |
| ec:2.7.7.9 | SHCRBa_024_H17_F_300 | 2358 | UDP glucose pyrophosphorylase |
| ec:3.1.1.11 | SHCRBa_026_H12_R_50 | 24 | pectinaesterase |
| ec:3.1.3.24 | SHCRBa_104_G22_F_10 | 109 | sucrose-6-phosphate phosphohydrolase |
| ec:3.2.1.15 | SHCRBa_170_C07_F_90 | 23 | polygalacturonase |
| ec:3.2.1.2 | SHCRBa_185_C01_F_180 | 311 | beta-amylase |
| ec:3.2.1.26 | SHCRBa_119_J13_R_30 | 2 | beta-fructofuranosidase |
| ec:3.2.1.37 | SHCRBa_026_H12_F_40 | 1894 | xylan 1,4-beta-xylosidase |
| ec:5.4.2.2 | SHCRBa_018_K13_F_200 | 15413 | phosphoglucomutase |