**Table S10.** The lists of *SUS* gene family in 16 plant species.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Gene name | Gene\_id | Strand | ORF | No. of a.a | No. of introns | 5’-3’ Coordinate | pI | Mw(kD) |
| *Arabidopsis thaliana* |
| AtSUS1 | AT5G20830 | - | 2424 | 807 | 12 | Chr5 : 7050599-7054032 | 5.83  | 93.00  |
| AtSUS2 | AT5G49190 | - | 2421 | 806 | 11 | Chr5 : 19943369-19947189 | 5.70  | 62.06  |
| AtSUS3 | AT4G02280 |  | 2427 | 808 | 11 | Chr4 : 995166-998719 | 5.85  | 92.00  |
| AtSUS4 | AT3G43190 | - | 2424 | 807 | 11 | Chr3 : 15179204-15182577 | 6.12  | 93.00  |
| AtSUS5 | AT5G37180 | + | 2511 | 836 | 12 | Chr5 : 14718238-14722913 | 6.13  | 95.03  |
| AtSUS6 | AT1G73370 | - | 2826 | 941 | 11 | Chr1 : 27584533-27588326 | 8.13  | 106.88  |
| *Amborella trichopoda* |
| AtrSUS1 | ATR0317G021 | - | 2430 | 809 | 14 | scaffold00106:80681-87957 | 6.14  | 92.52  |
| AtrSUS2 | ATR0807G093 | - | 2556 | 851 | 16 | scaffold00044:420024-427185 | 8.35  | 96.71  |
| *Chlamydomonas reinhardtii* |
| CrSUS1 | Cre12.g524000 | + | 6945 | 2314 | 23 | chromosome\_12:4753113-4765694 | 5.99  | 226.02  |
| *Brachypodium distachyon* |
| BdSUS1 | Bradi1g20890 | + | 2451 | 816 | 14 | 16789196-16793519 | 6.10  | 93.16  |
| BdSUS2 | Bradi1g29570 | + | 2592 | 863 | 16 | 25158373-25162521 | 8.23  | 98.93  |
| BdSUS3 | Bradi1g46670 | + | 2424 | 807 | 14 | 45377885-45382275 | 6.01  | 92.13  |
| BdSUS4 | Bradi1g60320 | + | 2445 | 814 | 13 | 59850702-59855241 | 5.87  | 92.54  |
| BdSUS5 | Bradi1g62957 | + | 2427 | 808 | 14 | 62379261-62385942 | 6.05  | 92.31  |
| BdSUS6 | Bradi3g60687 | + | 2799 | 932 | 15 | 59321061-59325376 | 7.18  | 106.00  |
| *Brassica rapa* |
| BrSUS1 | Brara.C00954 | - | 2421 | 806 | 10 | A03 : 4450794-4454625 | 5.76  | 92.48  |
| BrSUS2 | Brara.E01375 | - | 2541 | 846 | 12 | A05 : 8601273-8605807 | 6.18  | 96.21  |
| BrSUS3 | Brara.F03015 | + | 2397 | 798 | 13 | A06 : 24153728-24157644 | 6.09  | 91.06  |
| BrSUS4 | Brara.G02318 | + | 1227 | 408 | 5 | A07 : 19835972-19839793 | 8.55  | 45.99  |
| BrSUS5 | Brara.G02800 | + | 1572 | 523 | 5 | A07 : 22543825-22545785 | 6.87  | 59.48  |
| BrSUS6 | Brara.G03267 | + | 1230 | 409 | 5 | A07 : 25091028-25094696 | 8.70  | 46.79  |
| BrSUS7 | Brara.I00137 | + | 2436 | 811 | 11 | A09 : 786483-790395 | 5.83  | 92.34  |
| BrSUS8 | Brara.J01546 | + | 2418 | 805 | 11 | A10 : 13465780-13469161 | 5.80  | 92.21  |
| *Dendrobium catenatum* |
| DcSUS1 | Dendrobium\_GLEAN\_10013680 | + | 891 | 296 | 0 | scaffold18586:1848-5163 | 6.49  | 33.46  |
| DcSUS2 | Dendrobium\_GLEAN\_10032668 | + | 2418 | 805 | 13 | scaffold10161:31952-36549 | 6.02  | 91.65  |
| DcSUS3 | Dendrobium\_GLEAN\_10069518 | + | 825 | 274 | 1 | scaffold4378:1138-2257 | 8.98  | 31.60  |
| DcSUS4 | Dendrobium\_GLEAN\_10069521 | - | 1251 | 416 | 6 | scaffold4378:18072-30379 | 6.09  | 46.99  |
| DcSUS5 | Dendrobium\_GLEAN\_10069526 | - | 861 | 286 | 5 | scaffold4378:50731-54138 | 9.05  | 32.64  |
| DcSUS6 | Dendrobium\_GLEAN\_10089179 | - | 1617 | 538 | 0 | scaffold2581:4778-6391 | 6.21  | 59.91  |
| DcSUS7 | Dendrobium\_GLEAN\_10095005 | + | 1197 | 398 | 0 | scaffold2157:110070-111263 | 7.62  | 44.65  |
| DcSUS8 | Dendrobium\_GLEAN\_10105018 | - | 285 | 94 | 1 | scaffold1516:154975-155351 | 4.72  | 10.53  |
| DcSUS9 | Dendrobium\_GLEAN\_10115731 | + | 2454 | 817 | 0 | scaffold939:12633-16921 | 6.01  | 92.95  |
| DcSUS10 | Dendrobium\_GLEAN\_10133317 | - | 2466 | 821 | 0 | scaffold263:133585-138259 | 6.76  | 92.66  |
| DcSUS11 | Dendrobium\_GLEAN\_10114912 | - | 1950 | 649 | 8 | scaffold986:138945-175168 | 5.91  | 72.73  |
| DcSUS12 | Dendrobium\_GLEAN\_10075975 | + | 2838 | 945 | 0 | scaffold3686:88092-90929 | 5.63  | 105.38  |
| DcSUS13 | Dendrobium\_GLEAN\_10069519 | - | 309 | 102 | 0 | scaffold4378:6958-8971 | 9.91  | 11.95  |
| DcSUS14 | Dendrobium\_GLEAN\_10105017 | - | 870 | 289 | 0 | scaffold1516:152719-154872 | 8.92  | 33.31  |
| DcSUS15 | Dendrobium\_GLEAN\_10063746 | + | 951 | 316 | 0 | scaffold5068:67096-68046 | 5.14  | 34.59  |
| *Glycine max* |
| GmSUS1 | Glyma.02G240400 | + | 2523 | 840 | 14 | 42892859-42897937 | 6.81  | 95.33  |
| GmSUS2 | Glyma.03G216300 | - | 2439 | 812 | 14 | 42038409-42044019 | 5.76  | 92.31  |
| GmSUS3 | Glyma.09G073600 | - | 2433 | 810 | 11 | 7810856-7815282 | 6.02  | 93.66  |
| GmSUS4 | Glyma.09G167000 | - | 2766 | 921 | 14 | 39104025-39109505 | 6.61  | 104.15  |
| GmSUS5 | Glyma.11G212700 | - | 2538 | 845 | 14 | 30547491-30552238 | 6.53  | 95.77  |
| GmSUS6 | Glyma.13G114000 | - | 2418 | 805 | 11 | 22767977-22771945 | 6.04  | 92.24  |
| GmSUS7 | Glyma.14G209900 | + | 2523 | 840 | 14 | 47516076-47521414 | 7.02  | 95.28  |
| GmSUS8 | Glyma.15G151000 | - | 2409 | 802 | 14 | 12497421-12504514 | 5.84  | 91.57  |
| GmSUS9 | Glyma.15G182600 | - | 2421 | 806 | 12 | 17910482-17915416 | 5.87  | 92.72  |
| GmSUS10 | Glyma.16G217200 | - | 2763 | 920 | 14 | 37414392-37419628 | 6.66  | 103.91  |
| GmSUS11 | Glyma.17G045800 | + | 2418 | 805 | 11 | 3406111-3410110 | 5.93  | 92.19  |
| GmSUS12 | Glyma.19G212800 | - | 2439 | 812 | 14 | 46634227-46639699 | 5.95  | 92.26  |
| *Malus domestica* |
| MdSUS1 | MDO.mRNA.g.10.40 | + | 1923 | 640 | 9 | Backbone\_10:401891-404817 | 5.73  | 72.01  |
| MdSUS2 | MDO.mRNA.g.1121.1 | + | 1845 | 614 | 12 | Backbone\_1121:11335-44391 | 5.99  | 70.16  |
| MdSUS3 | MDO.mRNA.g.1510.6 | - | 1113 | 370 | 7 | Backbone\_1510:20583-22505 | 5.76  | 42.41  |
| MdSUS4 | MDO.mRNA.g.1510.9 | - | 1821 | 606 | 9 | Backbone\_1510:35284-38090 | 5.65  | 68.79  |
| MdSUS5 | MDO.mRNA.g.1942.36 | + | 1677 | 558 | 10 | Backbone\_1942:219828-223410 | 5.97  | 63.60  |
| MdSUS6 | MDO.mRNA.g.2408.15 | - | 1803 | 600 | 11 | Backbone\_2408:100742-103798 | 6.24  | 67.96  |
| MdSUS7 | MDO.mRNA.g.2792.2 | + | 1899 | 632 | 15 | Backbone\_2792:25664-30450 | 6.32  | 72.26  |
| MdSUS8 | MDO.mRNA.g.3274.4 | + | 1482 | 493 | 9 | Backbone\_3274:36827-45555 | 5.73  | 56.03  |
| MdSUS9 | MDO.mRNA.g.3274.6 | + | 1404 | 467 | 8 | Backbone\_3274:49131-52313 | 5.36  | 52.13  |
| MdSUS10 | MDO.mRNA.g.4524.3 | - | 1446 | 481 | 7 | Backbone\_4524:19039-21275 | 6.62  | 54.59  |
| MdSUS11 | MDO.mRNA.g.693.6 | + | 2535 | 844 | 12 | Backbone\_693 : 31554-35617 | 6.51  | 94.32  |
| MdSUS12 | MDO.mRNA.g.7.21 | - | 816 | 271 | 6 | Backbone\_7 : 264058-265760 | 8.22  | 30.86  |
| *Oryza sativa* |
| OsSUS1 | LOC\_Os02g58480 | + | 2538 | 845 | 11 | 35755136-35760862 | 5.99  | 96.15  |
| OsSUS2 | LOC\_Os03g22120 | - | 2427 | 808 | 14 | 12674748-12680604 | 6.08  | 92.22  |
| OsSUS3 | LOC\_Os03g28330 | - | 1701 | 566 | 10 | 16302728-16306057 | 5.68  | 64.23  |
| OsSUS4 | LOC\_Os04g17650 | - | 2340 | 779 | 13 | 9662442-9667057 | 6.20  | 89.17  |
| OsSUS5 | LOC\_Os04g24430 | + | 2565 | 854 | 16 | 14008320-14013239 | 7.77  | 97.81  |
| OsSUS6 | LOC\_Os06g09450 | - | 2424 | 807 | 14 | 4796895-4801257 | 5.96  | 92.13  |
| OsSUS7 | LOC\_Os07g42490 | + | 2448 | 815 | 14 | 25430598-25434904 | 6.15  | 93.11  |
| *Picea abies* |
| PaSUS1 | PAB00006776 | + | 2025 | 674 | 12 | MA\_10427170 : 683-11170 | 6.00  | 77.32  |
| PaSUS2 | PAB00010305 | - | 2451 | 816 | 16 | MA\_10430807:41869-51909 | 6.43  | 93.41  |
| PaSUS3 | PAB00011567 | - | 2601 | 866 | 17 | MA\_10432094:2120-12852 | 6.32  | 99.51  |
| PaSUS4 | PAB00020688 | - | 1992 | 663 | 11 | MA\_123269 : 2990-12025 | 5.89  | 75.20  |
| PaSUS5 | PAB00021357 | + | 2412 | 803 | 15 | MA\_127762 : 1954-11249 | 5.61  | 91.06  |
| PaSUS6 | PAB00030334 | + | 777 | 258 | 0 | MA\_1889 : 12939-13718 | 4.84  | 29.65  |
| PaSUS7 | PAB00035089 | - | 2031 | 676 | 14 | MA\_27253 : 7418-18962 | 5.86  | 77.24  |
| *Physcomitrella patens* |
| PpSUS1 | Pp3c1\_33460 | - | 2508 | 835 | 11 | 23598546-23602727 | 5.84  | 94.76  |
| PpSUS2 | Pp3c5\_19770 | + | 2475 | 824 | 13 | 13945406-13951031 | 5.70  | 94.58  |
| PpSUS3 | Pp3c10\_11330 | + | 2571 | 856 | 11 | 7611378-7615259 | 5.94  | 97.24  |
| PpSUS4 | Pp3c19\_5850 | - | 2490 | 829 | 13 | 3270185-3275360 | 5.81  | 94.73  |
| *Populus trichocarpa* |
| PtSUS1 | Potri.002G202300 | + | 2433 | 810 | 14 | 16415973-16421156 | 5.90  | 92.94  |
| PtSUS2 | Potri.004G081300 | - | 2505 | 834 | 11 | 6705665-6709442 | 6.76  | 95.14  |
| PtSUS3 | Potri.006G136700 | + | 2409 | 802 | 12 | 11286612-11290388 | 6.17  | 92.14  |
| PtSUS4 | Potri.012G037200 | + | 2400 | 799 | 12 | 3315861-3319535 | 5.98  | 90.43  |
| PtSUS5 | Potri.015G029100 | + | 2430 | 809 | 12 | 2355838-2359496 | 6.48  | 91.77  |
| PtSUS6 | Potri.017G139100 | + | 2445 | 814 | 11 | 14732249-14736064 | 6.13  | 92.40  |
| PtSUS7 | Potri.018G063500 | - | 2415 | 804 | 12 | 7953808-7957574 | 6.23  | 92.49  |
| *Sorghum bicolor* |
| SbSUS1 | Sobic.001G344500 | + | 2448 | 815 | 13 | 63322534-63327118 | 6.03  | 92.96  |
| SbSUS2 | Sobic.001G378300 | + | 2427 | 808 | 14 | 66642863-66650032 | 6.37  | 92.29  |
| SbSUS3 | Sobic.004G357600 | + | 2589 | 862 | 10 | 68447180-68450780 | 8.35  | 97.70  |
| SbSUS4 | Sobic.010G072300 | - | 2406 | 801 | 14 | 5859487-5863836 | 5.82  | 91.71  |
| SbSUS5 | Sobic.010G276700 | - | 2589 | 862 | 15 | 60979397-60983598 | 7.81  | 102.48  |
| *Setaria italica* |
| SiSUS1 | Seita.1G378600 | + | 2577 | 858 | 11 | 41988015-41991623 | 6.96  | 97.81  |
| SiSUS2 | Seita.4G041500 | + | 2406 | 801 | 14 | 2944429-2948744 | 5.93  | 91.72  |
| SiSUS3 | Seita.4G288800 | - | 2568 | 855 | 15 | 40062014-40065954 | 7.17  | 97.60  |
| SiSUS4 | Seita.9G371700 | + | 2448 | 815 | 13 | 43203103-43207671 | 5.99  | 92.95  |
| SiSUS5 | Seita.9G410800 | + | 2427 | 808 | 13 | 46886703-46892013 | 6.10  | 92.34  |
| *Selaginella moellendorffii* |
| SmSUS1 | SMO203G0230 | + | 2517 | 838 | 14 | scaffold\_40:543660-547057 | 6.11  | 95.44  |
| *Zea mays* |
| ZmSUS1 | Zm00001d014876 | - | 2580 | 859 | 15 | 5 : 66769897-66773844 | 8.19  | 98.02  |
| ZmSUS2 | Zm00001d029087 | - | 2550 | 849 | 13 | 1 : 57457862-57464526 | 6.24  | 96.44  |
| ZmSUS3 | Zm00001d029091 | - | 2205 | 734 | 13 | 1 : 57486293-57492974 | 6.38  | 83.50  |
| ZmSUS4 | Zm00001d045042 | + | 2358 | 785 | 14 | 9 : 10908224-10912666 | 6.19  | 89.91  |
| ZmSUS5 | Zm00001d047253 | - | 2451 | 816 | 13 | 9 : 124178734-124183200 | 6.03  | 92.93  |
| ZmSUS6 | Zm00001d051837 | - | 2550 | 849 | 10 | 4 : 171679816-171683167 | 7.63  | 96.27  |
| ZmSUS7 | Zm00001d053737 | - | 1434 | 477 | 6 | 4 : 240099038-240104000 | 6.44  | 53.28  |