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90 3184 2232	249 1255	13	➤ callus
94 2760 2506	301 1438	11	cell suspension
63 1793 1988	262 1374	13	> seedling
63 1135 944	340 1368	16	cotyledons
69 1438 2196	233 4300	15	hypocotyl
104 2719 2850	264 1865	17	radicle
853 1287 1185	513 3093	35	≻inflorescence
2806 1102 1052	1265 2482	84	 flower
141 1047 1130	169 1871	17	 carpel
75 666 869	118 1231	8	• ovary
69 647 1347	134 383	8	• stigma
290 1346 1083	285 309	8	petal
268 2024 844	323 220	9	• sepal
20472 615 519	7596 854	105	• stamen
<mark>105229</mark> 569 518	<mark>31852</mark> 301	38	• pollen
108 727 917	212 1502	15	pedicel
280 1512 1144	322 1500	19	• silique
83 1789 1262	209 684	13	• seed
110 1161 1531	293 1675	21	• stem
19 1050 1700	158 1400	8	• node
62 1222 1204	139 7212	7	 shoot apex
59 1931 964	238 262	21	cauline leaf
73 1578 1107	272 903	15	≻rosette
66 1159 1104	263 2104	13	 juvenile leaf
73 2286 1282	291 435	15	adult leaf
94 993 981	234 959	11	 petiole
100 <mark>2278</mark> 763	243 114	7	 senescent leaf
94 2375 1549	142 386	11	 hypocotyl
91 2106 1241	202 305	10	xylem
86 1857 1292	137 521	11	• cork
82 <mark>3563</mark> 3324	250 1215	12	≻roots
108 <mark>4184 4824</mark>	267 1164	15	 lateral root
146 1962 1611	224 2629	11	 root tip
80 4645 5136	235 1213	13	 elongation zone
108 8086 5357	165 550	19	 root hair zone
220 <mark>5776 8036</mark>	332 743	32	endodermis
162 <mark>3869 5819</mark>	141 1563	13	 endodermis+cortex
388 2269 4937	194 1707	10	 epid. atrichoblasts
198 <mark>527810071</mark>	126 1913	16	 lateral root cap
230 2991 5170	76 1032	15	> 60 stele

Supplemental Figure 1. In silico Expression Profiling of the

<u>CSLD family.</u> The relative expression of CSLD genes in all major Arabidopsis organs/tissues was analyzed using the Genvestigator Meta-Analyzer tool (https://www.genevestigator.ethz.ch/). Signal intensity values are arbitrary units.



Supplemental Figure 2. RT-PCR analysis of the CSLD family.

RT-PCR analysis was carried out on various organs of wild type (Col-0) plants using primers specific for each of the members of the CSLD family. Arabidopsis translation initiation factor EIF4A2 was used as a constitutive expression control.



Supplemental Figure 3. Analysis of promoter activity for CSLD2 and CSLD3. Confocal microscopic analysis of GFP expression in roots of 6 day old wild type seedlings carrying proCSLD2::GFP::GUS or proCSLD3::GFP::GUS fusion constructs. Expression of constructs was observed in some trichoblasts at early (A and B) and late (C and D) stages of root hair development. proCSLD2::GFP::GUS expression was generally sparse in the distal (d) portion of roots and stronger in proximal (p) portions (E). In contrast, proCSLD3::GFP::GUS expression was strong in distal portions (F and G).



Supplemental Figure 4. Generation of *CSLD* Knockout Lines. Schematic showing the gene structures of *CSLD1* (**A**), *CSLD2* (**B** and **C**) *CSLD3* (**D**) and *CSLD4* (**E**). Promoter regions are represented by grey boxes, black boxes are exons and connecting lines are introns. Insertional mutants were generated and the position of the T-DNA insertion in each gene is indicated by open triangles. *csld2-1,csld2-2,* and *csld3-2* are homozygous mutants whereas *csld1-1* and *csld4-1* are heterozygous. (**F**), Semi-quantitative RT-PCR of *CSLD2* and *CSLD3* in wild-type (WT), *csld2-1, csld2-2* and *csld3-2*. Total RNA was prepared from root tissue. *EIF4A2* primers were used as a control. Products obtained from primers for *CSLD2* and *CSLD3* are indicated at the bottom.



Supplemental Figure 5. Functional complementation of *csld3-2* with YFP-CSLD3. Phenotypes of the csld3-2 mutant (A) and csld3-2 complemented with the 35S::YFP::CSLD3 construct used in Figure 10 (B).