

Table S1. Molecular markers of chromosome 3 used in the chromosomal location of the *esd1* mutation

Marker	Type	Location
GAPab	SSLP	43.77 cM
GL1	CAPS	48.45 cM
ATPOX	CAPS	52.40 cM
Centromere		
ATA1	CAPS	53.87 cM
NIT1.2	SSLP	55.12 cM
TOPP5	CAPS	59.20 cM
ASN1	CAPS	61.42 cM
nga6	SSLP	86.41 cM

Table S2. Markers used to fine map the *esd1* mutation

Marker	Type	Restriction enzyme	Forward	Reverse
ATPOX	CAPS	<i>Msp</i> el	TCTGCTGCGGTGGGAATACAAAAG	GCCATCATTCCCCGTTCTCATAG
MIJ6*	CAPS	<i>Dde</i> l	CATTCCGCATTATTATCTACCC	CAAGTGACAATACAGCGGAAC
T25C10	SSLP	–	TAGGGGACATATCAAACCAAC	GTCTAAAACCATCTTCACCATAAT
T8N9*	SSLP	–	TGCTCGTCATCTCTTGTGTGTG	CTTCTCATTCTGTAAACCGCA
T15D2*	CAPS	<i>Xba</i> l	TGAGGTAGTGGAGGAGAAAACG	TTGATGTATGGGGGATTGATTT
T21P20	CAPS	<i>Mse</i> l	CAAGCTTCATGGGGACTAGCTAG	TAATACGGGACAATCTACAACAC
T27B3*	CAPS	<i>Taq</i> l	AGAATCAATGCCTATCAAGACAC	CAACTAAGAGACTGATCATAAAATAA
ATA1	CAPS	<i>Nai</i> lll	ATGATCAAAGGGGGACGAGG	AAGGAAACACCACCAAACGAAAAC

*Molecular markers developed during this work.

Table S3. Molecular markers used for the analysis of the deleted regions in the *esd1* alleles

BAC	Marker	Forward	Reverse	Deleted in allele
F1D9	F1D9	CACTCTTGCTGTTGTTTTCTTA	GAAAGTTGAGATGACGTATTG	4
T7B9	1.T7B9	TACTCTAACCCATCTCAGCAAC	TTCCACCATCATCCACCACTC	4
	2.T7B9	CTTTGGTTGCGAGAGACAGG	GTTGTTCATCCTGTATTGTTCTG	4
	3.T7B9	TTGGCTTGGATGAGTTCGG	ATCCGCTTACCACATCCCACTC	4
	4.T7B9	TCCTCCTCGTCGTCGGTGC	ACTCCACGGGCATTCCGCT	4
T13O13	1.T13O13	TCTCAAATGGCTCTACTCGTGC	ACGGTTTTCTTCGGCTTTC	4
	5.T13O13	GCAACTGCTACAGCCCCG	CGAATCTGTGGCTGGCCACGCGG	4
	2.T13O13	ATGACTTCTACTTCCGCTGC	GCTATGGTCAGTTGTCCGTT	4
	3.T13O13	ATGGAGAGACAGAAAAAGAAGTTG	TTTCAGCCGCATTTGTATTCT	4
T15D2	4.T13O13	ATGGTTACCAGATTTAAGTGTCT	TCTGGATCATCTCGTCTCC	4
	1.T15D2	AAGCTTGACAAGCTAGTAAACCTA	AAGTCTATTCAGAAATTGACTAAGTG	4
	2.T15D2	CCACAACAACGGAGGTATCG	GCTGTGGGTCATACTCCTTTTT	4
	3.T15D2	AACCTTGTCTTTTTTGTGATTAG	TACCAACCATCATCCTCTTCTC	4
	4.T15D2	ATTTGGTGTATGTTCTTTCGGTCC	TAGATAGTGAACGCAACAAATAGA	4
	5.T15D2	TTTTACGGCTCCCTCAAGC	AACTCCCGCTCTTCTGTCTACC	4
	6.T15D2	TATTCTGGGCTTGAGGGTAGTA	CACAACACTCTCTCCCATCTCA	4
F21A14	3.F21A14	ATTCCTCCATCTTCTTCCATCA	CGAGCACTTGTCTTGGACTTCAT	1-5, 7-9
	4.F21A14	TGGTCCGCACAACATCTTAT	TGCCGAACCTCATCTCCACATC	1-5, 7-9
	5.F21A14	AATCCTCACCTTCCCTTGCCA	TCTTCTTCTCTTCTTGTGCTTGA	1-5, 7-9
	2.F21A14	TCCTCGGATTCCTGGCA	ACTTGGGTCGGATTCAAGGC	1-9
	1.F21A14	ATTGTTTTGGGGGATGGGC	CGAGTGTCTGTTGAGTGCGGAA	1-9
T4P3	4.T4P3	ATGATGATGCCCTCGTAGTTA	ACATACACGCCACTTGCCATTT	1-9
	1.T4P3	TAAATGTGAGCAATCCCTGAG	ACTTGCCTGCTCCTTCTCTGTGCG	1-9
	2.T4P3	CGGTCTCTTGCCTTTCCTCT	GCTGCCTCTCTTCCAACCTCGG	1-9
	3.T4P3	TTTTGGGTGCGTTTTTGAATCCTA	TAGGATTTTTGCTGCTTCATACTTA	1-9
T14A11	4.T14A11	TCAGCATCTTCTGTGCGAGGA	ATCCCGACTTCTCATTACCTC	1-9
	3.T14A11	ATCGTGTCTTCCAGGTTTTGA	TAACCTCCAACCTTCTCCAATCTA	1-9
	2.T14A11	TTCTTCCCCTCTTCTTCTCTTG	GGCGTAGTCCTTGTCCATTGTCA	1-9
	1.T14A11	TCCAACCTTTATCTCATTACTGT	CATTCTTTAGTGTCTGATTTCCG	3-9
T26P13	4.T26P13	AAGATTGTAGGGAGATTGTGATAA	CGTTTTGGTGTAGTGATCCCGATT	3-9
	3.T26P13	ACTGATGTTGAGGCGGGAAGGTTT	GCTTTGCGGTAATGGTCGTTCTTC	3-9
	2.T26P13	AGAAGGGTTGAAGCGGGTGTG	GCTACAGGTTTTGGTGGGAAGAA	3-9
	1.T26P13	ACCACTGCTGTCAATTGCTCGGGAA	CGCCTCTTTGTCTTCTTCTTC	3-9
T25F15	1.T25F15	ATATTTTTTTCAGTCAACAGAGTG	CGAGTGGGTATGCTTCAGGAGAT	6, 9