Name: *procera* (*pro*)

Accessions: H13 (LA4476)

Gene ID: Solyc11g011260

Map position: chromosome 11 (short arm)

Gene function: *SlGAI* (*Solanum lycopersicum* GA insensitive) DELLA-type growth repressor (repressor of GA response genes)

Gene effect: MT-*pro* shows a constitutive GA response due to a point mutation in the VHV(I/V)D motif, witch is thought to be important for DELLA action.

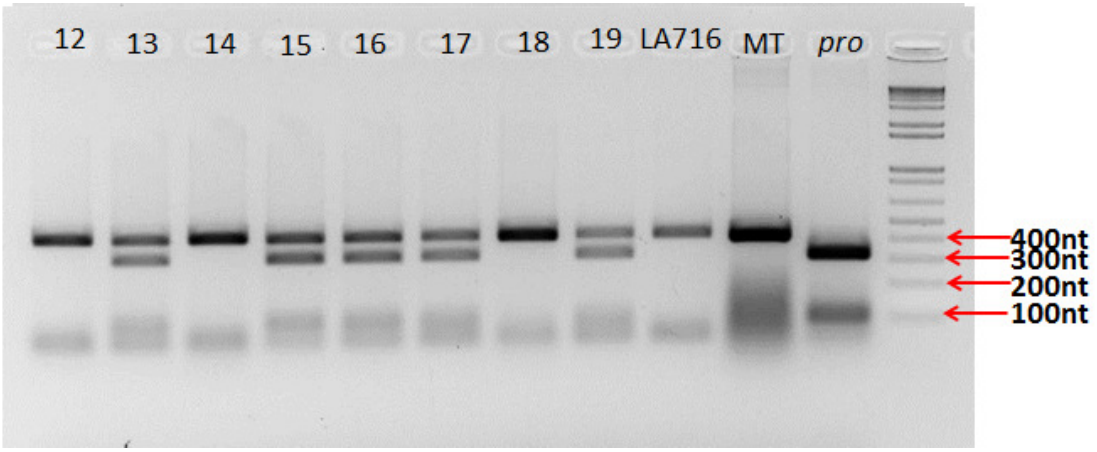
Phenotypes: more rapid growth rate; slightly reduced anthocyanin accumulation in the hypocotyls; few leaflets, which are less dentate in the margins; tall, slender and weak plant. Flowers usually present additional petal, sepal, stamen, and carpel at each of the four whorls. High tendency to form parthenocarpic fruits. Some navel fruits can be also formed (see figure below). Low *in vitro* organogenic capacity in both shoot-inducing medium (SIM) and root-inducing medium (RIM). Excessive growth of callus in callus-inducing media (CIM).

Comments: MT-*pro* needs to be manually pollinated, since it has exserted stigmas. The mutant can be screened by both morphological (see "Phenotype" above) and PCR makers. The CAPS marker is as follows: primer forward – 5"…**CACAAGAAACTGGGGTTCGT**…3"; primer reverse – 5"…**CCGATTCCGGTGAGTCTAAA**…3". The PCR product (433nt) should be digested by *Pag*I (*Bsp*HI). The site of digestion matches with the single nucleotide change in the *procera* mutant, which will produce two bands in the MT-*pro* mutant (300 + 100nt), one band in the control MT and three bands in the heterozygous plant (see figure below).

Description of accessions available: MT-*pro* is a BC6Fn introgressed from LA0565 (cv Condine Red)

Figures:

MT-*pro* (left) is bigger than MT and their leaves are larger with smooth borders. Close up of MT-*pro* navel fruit.



Screening of tomato *DELLA* alleles using a CAPS marker. Lines 12, 14 and 18 represent homozygous MT (BC6F2) plants harboring the *Solanum pennellii* LA716 DELLA allele (*Pro716*). Lines 13, 15, 16, 17 and 19 represent heterozygous plants harboring *Pro716/pro* combination of alleles. LA716, MT and *pro* are homozygous plants for the alleles *Pro716*, *Pro* and *pro*, respectively.

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