

Name: *sun* (*sun*)

Accessions: FS3

Gene ID:

Map position: chromosome 7 (short arm)

Gene function: *SUN* encode a member of the *IQ67* domain-containing family.

Gene effect: The increased *SUN* expression in the mutated allele (due to retrotransposon insertion) causes elongated fruit shape.

Phenotypes: MT-*sun* presents elongated and pointed fruit shape.

Comments:

Description of accessions available: *sun* is a BC6Fn from cv Long John (LA0791).

Figures:

Bibliography

Brewer MT, Moyseenko JB, Monforte AJ, van der Knaap E (2007) Morphological variation in tomato: a comprehensive study of quantitative trait loci controlling fruit shape and development. *Journal of Experimental Botany* 58:1339-1349.

Gonzalo M, van der Knaap E (2008) A comparative analysis into the genetic bases of morphology in tomato varieties exhibiting elongated fruit shape. *Theoretical and Applied Genetics* 116:647-656.

Grandillo S, Ku HM, Tanksley SD (1999) Identifying the loci responsible for natural variation in fruit size and shape in tomato. *Theoretical and Applied Genetics* 99:978-987.

Jiang N, Gao D, Xiao H, van der Knaap E (2009) Genome organization of the tomato *sun* locus and characterization of the unusual retrotransposon Rider. *Plant Journal* 60:181-193.

Rodríguez GR, Muños S, Anderson C, Sim S-C, Michel A, Causse M, Gardener BBM, Francis D, van der Knaap E (2011). Distribution of *SUN*, *OVATE*, *LC* and *FAS* in the tomato germplasm and the relationship to fruit shape diversity. *Plant Physiology* 156: 275-285

van der Knaap E, Sanyal A, Jackson SA, Tanksley SD (2004) High-Resolution fine mapping and fluorescence in situ hybridization analysis of *sun*, a locus controlling

tomato fruit shape, reveals a region of the tomato genome prone to DNA rearrangements. *Genetics* 168:2127–2140.

Xiao H, Jiang N, Schaffner E, Stockinger EJ, van der Knaap E (2008) A retrotransposon-mediated gene duplication underlies morphological variation of tomato fruit. *Science* 319:1527-1530.