

Table 1 Suppl. Gain-of-function and loss-of-function mutants for five different ABCB genes in *Arabidopsis*. Only the most dramatic phenotypes are listed. See the cited references for further details. T-DNA insertion mutants from the Salk Institute Genomic Analysis Laboratory (<http://signal.salk.edu/>) are represented by their SALK numbers, whereas mutant names are indicated for lines without SALK numbers.

Gene	Mutant	Phenotypes	References	
<i>AtABCB1</i>	antisense transformants <i>atpgp1</i>	reduced hypocotyl growth in light, slightly shorter roots faster and greater gravitropism, enhanced phototropism lack of obvious phenotype	Lee <i>et al.</i> 2005 Noh <i>et al.</i> 2003 Geisler <i>et al.</i> 2005, Wu <i>et al.</i> 2007	
	overexpression	enhanced hypocotyl growth under irradiance, significantly longer roots reduced root hair length	Lee <i>et al.</i> 2005 Cho <i>et al.</i> 2007	
<i>AtABCB4</i>	SALK_010207	slightly enhanced primary root growth, enhanced lateral root initiation and root hair length lack of obvious phenotype	Santelia <i>et al.</i> 2005 Wu <i>et al.</i> 2007 Lewis <i>et al.</i> 2007	
	SALK_067557 SALK_063720	enhanced lateral root initiation and root hair length shorter roots, significantly reduced lateral root number enhanced root hair length	Santelia <i>et al.</i> 2005 Terasaka <i>et al.</i> 2005 Cho <i>et al.</i> 2007 Kubes <i>et al.</i> 2011	
	SALK_067653 SALK_088311 SALK_072038	shorter roots, significantly reduced lateral root number shorter roots, significantly reduced lateral root number lack of obvious phenotype	Terasaka <i>et al.</i> 2005 Terasaka <i>et al.</i> 2005 Wu <i>et al.</i> 2007 Lewis <i>et al.</i> 2007	
	overexpression	slightly longer roots reduced root hair length	Terasaka <i>et al.</i> 2005 Cho <i>et al.</i> 2007	
	<i>AtABCB14</i>	SALK_016005 SALK_026876 Salk_016005	lower leaf number under combined high CO ₂ and drought lower leaf number under combined high CO ₂ and drought slightly disorganized stem vasculature and smaller phloem	Lee <i>et al.</i> 2008 Lee <i>et al.</i> 2008 Kaneda <i>et al.</i> 2011
		overexpression	later flowering times, greater leaf number under combined high CO ₂ and drought	Lee <i>et al.</i> 2008
<i>AtABCB19</i>		<i>atmdr1-1, atmdr1-2</i>	epinastic cotyledons, delayed inflorescence stem, shorter shoots, reduced apical dominance enhanced tropic bending in hypocotyls, faster and greater gravitropism, enhanced phototropism reduced lateral root number and length, enhanced gravitropic bending in roots	Geisler <i>et al.</i> 2005 Wu <i>et al.</i> 2007 Noh <i>et al.</i> 2003 Wu <i>et al.</i> 2007 Lewis <i>et al.</i> 2007
	<i>abcb19-5</i>	epinastic cotyledons, wavy roots and hypocotyls and defective organ fusion	Zhao <i>et al.</i> 2013	
	SALK_033455	epinastic cotyledons, wavy roots reduced cotyledon blade size and growth rate	Lewis <i>et al.</i> 2007 Lewis <i>et al.</i> 2009	
	overexpression	reduced root hair length	Cho <i>et al.</i> 2007	
	<i>AtABCB21</i>	<i>abcb21-ir1, abcb21-ir2</i>	lack of obvious phenotype	Kamimoto <i>et al.</i> 2012