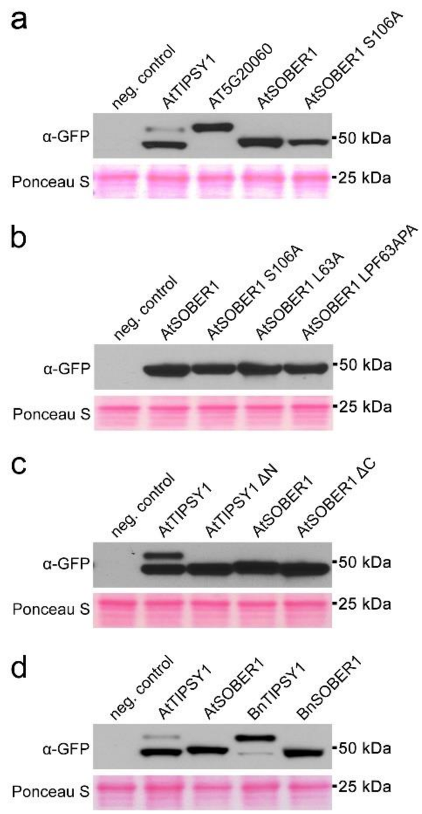
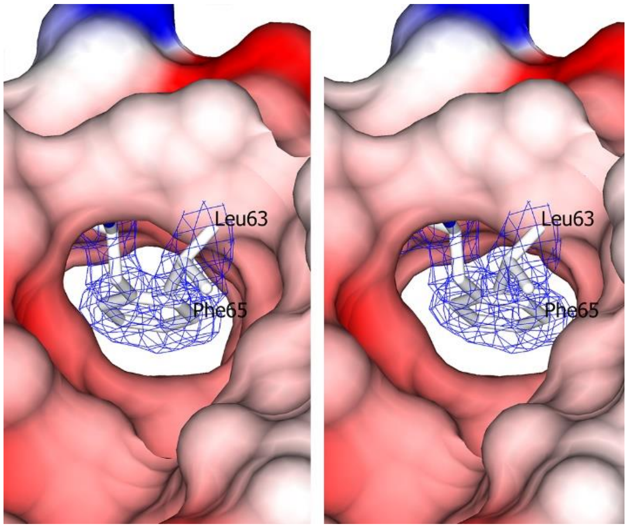
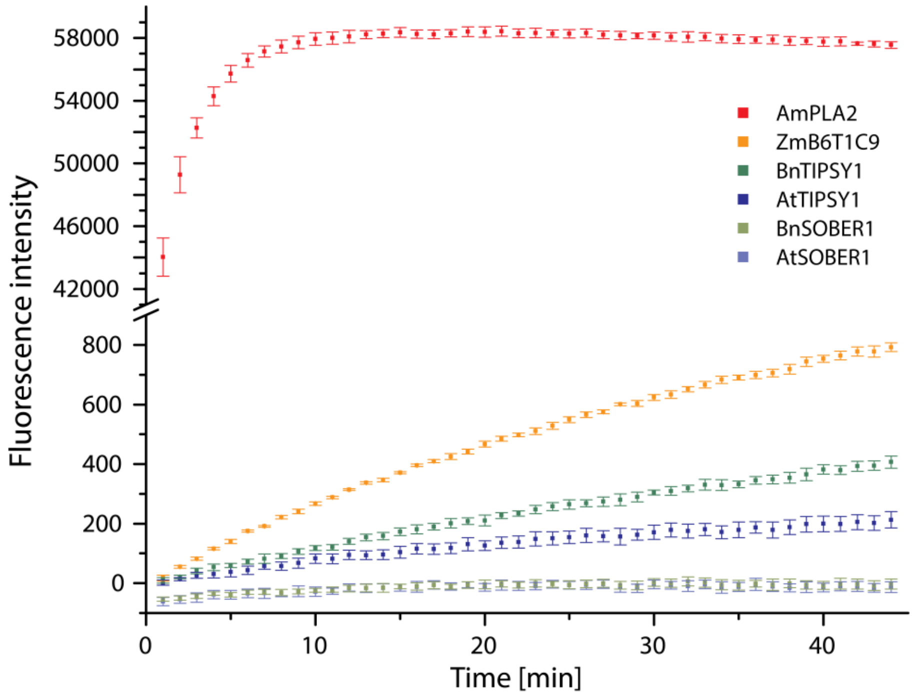


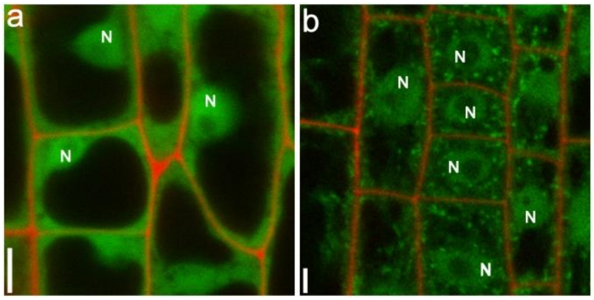
Supplementary Figure 1 | Western blot analysis of proteins expressed in *N. benthamiana* leaves as shown in **Fig. 2**, **Fig. 3**, **Fig. 4** and **Fig. 5**.



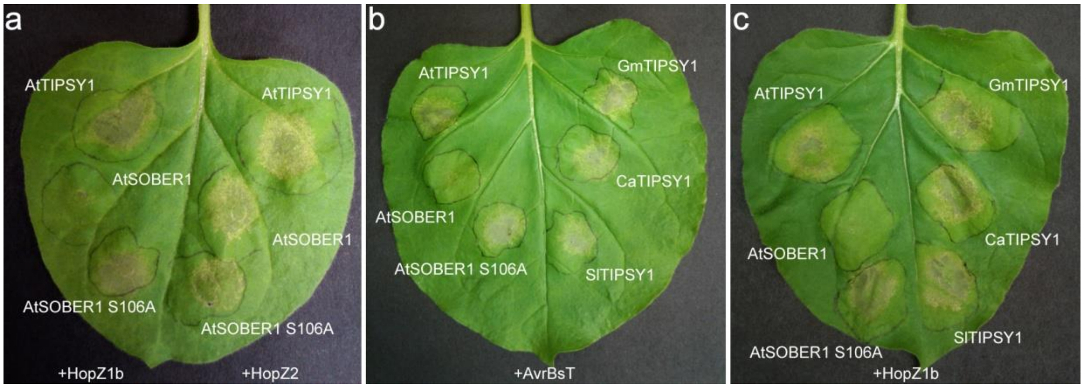
Supplementary Figure 2 | Stereo view of the SOBER1 tunnel with anchor residue Phe65 and residue Leu63 blocking the tunnel entrance. Electron density of Leu63 and Phe65 is shown as 2FOFCWT map contoured at 1 σ.



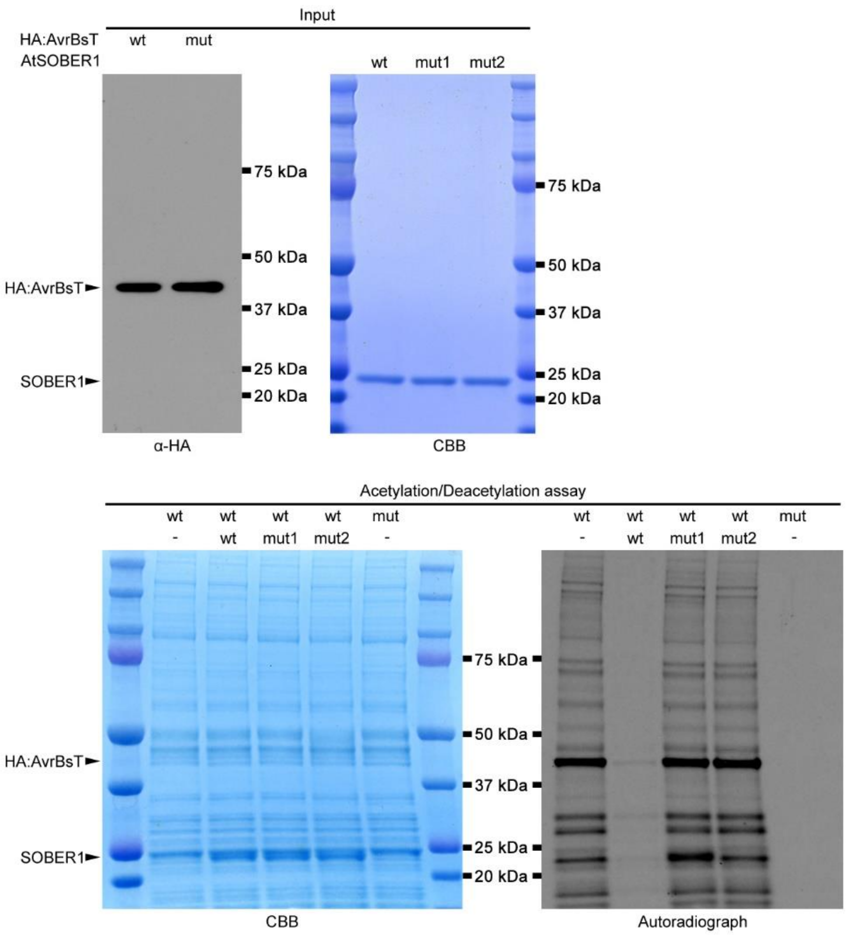
Supplementary Figure 3 | SOBER1 does not display detectable phospholipase A_2 activity.



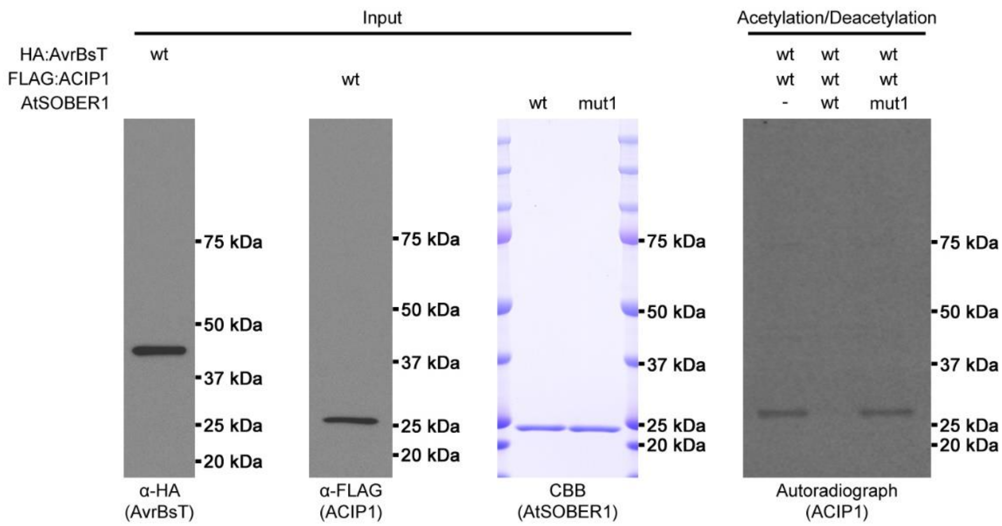
Supplementary Figure 4 | YFP signals of transgenic *Arabidopsis* seedlings expressing *AtSOBER1:HA:YFP:HA* (**a**) or *AtTIPSY1:HA:YFP:HA* (**b**) were detected in nuclei (N) of roots cells. YFP signals are shown in green while propidium iodide is depicted in red. Scale bar = 5 µm.



Supplementary Figure 5 | HR elicited by HopZ1b is suppressed by AtSOBER1. (**a**) *Arabidopsis SOBER1* and *TIPSY1* were co-expressed with *hopZ1b* or *hopZ2* from *P. syringae*. (**b**) *AtSOBER1* and *TIPSY1* from *Arabidopsis thaliana*, *Glycine max*, *Capsicum annuum* as well as *Solanum lycopersicum were* co-expressed with *avrBsT*. (**c**) *AtSOBER1* and *TIPSY1* from *Arabidopsis thaliana*, *Glycine max*, *Capsicum annuum* as well as *Solanum lycopersicum were* co-expressed with *hopZ1b*.



Supplementary Figure 6 | SOBER1 is a protein deacetylase. HA:AvrBsT (wild type and C222A mutant variant) was *in vitro* translated, affinity enriched and incubated with [^{14}C]-acetyl coenzyme A and inositol hexakisphosphate. Subsequent addition of wild type AtSOBER1 deacetylated AvrBsT and other acetylated proteins. These proteins derived from the *in vitro* transcription and translation system and were acetylated by AvrBsT. AtSOBER1 mutant variants (mut1: H192A, mut2: S106A H192A) showed no deacetylation activity.



Supplementary Figure 7 | Uncropped scans of western blots, CBB gel and autoradiograph shown in **Fig. 6b**.

Supplementary Table 1 | Kinetic parameters of proteins on different *p*NP esters

	AtSOBER1	AtSOBER1 L63A	AtSOBER1 F65L	AtTIPSY1	AtTIPSY1 L110F	BnSOBER1	BnTIPSY1	ZmB6T1C9/ZmAPT2	Ca12g01000	Sl460409648
***p*NP acetate (C2:0)**										
K_M [M]	$1.58 \pm 0.11 \times 10^{-4}$	$6.39 \pm 0.22 \times 10^{-3}$	$3.12 \pm 0.44 \times 10^{-4}$	$1.75 \pm 0.18 \times 10^{-3}$	$1.75 \pm 0.33 \times 10^{-3}$	$7.53 \pm 0.28 \times 10^{-5}$	$1.19 \pm 0.09 \times 10^{-3}$	$1.72 \pm 0.43 \times 10^{-3}$	$2.39 \pm 0.05 \times 10^{-3}$	$1.43 \pm 0.27 \times 10^{-3}$
k_{cat} [s^{-1}]	$1.95 \pm 0.04 \times 10^{2}$	$3.75 \pm 0.09 \times 10^{1}$	$1.88 \pm 0.23 \times 10^{2}$	$7.89 \pm 0.27 \times 10^{2}$	$4.82 \pm 0.32 \times 10^{2}$	$7.11 \pm 0.09 \times 10^{1}$	$6.34 \pm 0.15 \times 10^{2}$	$5.27 \pm 0.46 \times 10^{2}$	$1.29 \pm 0.01 \times 10^{2}$	$2.32 \pm 0.16 \times 10^{2}$
k_{cat}/K_M [$s^{-1}M^{-1}$]	$1.24 \pm 0.09 \times 10^{6}$	$5.86 \pm 0.20 \times 10^{3}$	$6.04 \pm 0.84 \times 10^{5}$	$4.51 \pm 0.45 \times 10^{5}$	$2.76 \pm 0.52 \times 10^{5}$	$9.45 \pm 0.35 \times 10^{5}$	$2.32 \pm 0.37 \times 10^{5}$	$3.07 \pm 0.77 \times 10^{5}$	$5.40 \pm 0.11 \times 10^{4}$	$1.62 \pm 0.31 \times 10^{5}$
***p*NP butyrate (C4:0)**										
K_M [M]	$2.27 \pm 0.11 \times 10^{-4}$	$2.96 \pm 0.15 \times 10^{-5}$	$4.80 \pm 0.23 \times 10^{-5}$	$5.03 \pm 0.41 \times 10^{-4}$	$4.44 \pm 0.82 \times 10^{-4}$	$2.04 \pm 0.33 \times 10^{-5}$	$4.70 \pm 0.55 \times 10^{-4}$	$5.89 \pm 1.26 \times 10^{-4}$	$8.88 \pm 0.93 \times 10^{-5}$	$1.93 \pm 0.28 \times 10^{-4}$
k_{cat} [s^{-1}]	$9.64 \pm 0.20 \times 10^{0}$	$1.64 \pm 0.03 \times 10^{0}$	$1.10 \pm 0.18 \times 10^{1}$	$2.65 \pm 0.08 \times 10^{2}$	$1.00 \pm 0.07 \times 10^{1}$	$2.93 \pm 0.16 \times 10^{0}$	$2.22 \pm 0.08 \times 10^{2}$	$4.22 \pm 0.40 \times 10^{2}$	$8.82 \pm 0.26 \times 10^{1}$	$2.18 \pm 0.10 \times 10^{2}$
k_{cat}/K_M [$s^{-1}M^{-1}$]	$4.25 \pm 0.22 \times 10^{4}$	$5.54 \pm 0.23 \times 10^{4}$	$2.30 \pm 0.37 \times 10^{5}$	$5.10 \pm 0.41 \times 10^{5}$	$2.27 \pm 0.41 \times 10^{4}$	$1.44 \pm 0.23 \times 10^{5}$	$4.71 \pm 0.55 \times 10^{5}$	$7.17 \pm 1.51 \times 10^{5}$	$9.94 \pm 0.99 \times 10^{5}$	$1.13 \pm 0.16 \times 10^{6}$
***p*NP valerate (C5:0)**										
K_M [M]	$3.27 \pm 0.27 \times 10^{-4}$	$4.00 \pm 0.11 \times 10^{-6}$	$1.52 \pm 0.15 \times 10^{-4}$	$3.07 \pm 0.29 \times 10^{-4}$	$1.47 \pm 0.15 \times 10^{-4}$	$7.83 \pm 2.65 \times 10^{-5}$	$3.11 \pm 0.32 \times 10^{-4}$	$5.30 \pm 0.46 \times 10^{-4}$	$1.38 \pm 0.18 \times 10^{-4}$	$1.98 \pm 0.35 \times 10^{-4}$
k_{cat} [s^{-1}]	$9.01 \pm 0.25 \times 10^{0}$	$5.01 \pm 0.03 \times 10^{0}$	$1.42 \pm 0.06 \times 10^{1}$	$6.46 \pm 0.39 \times 10^{1}$	$1.09 \pm 0.05 \times 10^{1}$	$1.59 \pm 0.31 \times 10^{0}$	$1.19 \pm 0.05 \times 10^{2}$	$4.41 \pm 0.20 \times 10^{2}$	$3.49 \pm 0.13 \times 10^{1}$	$1.02 \pm 0.07 \times 10^{2}$
k_{cat}/K_M [$s^{-1}M^{-1}$]	$2.76 \pm 0.22 \times 10^{4}$	$1.25 \pm 0.03 \times 10^{6}$	$9.37 \pm 0.94 \times 10^{4}$	$2.10 \pm 0.20 \times 10^{5}$	$7.39 \pm 0.74 \times 10^{4}$	$2.03 \pm 0.69 \times 10^{4}$	$3.81 \pm 0.38 \times 10^{5}$	$8.31 \pm 0.07 \times 10^{5}$	$2.51 \pm 0.31 \times 10^{5}$	$5.13 \pm 0.91 \times 10^{5}$
***p*NP hexanoate (C6:0)**	not determinable	not determinable				not determinable			not determinable	
K_M [M]			$3.50 \pm 0.54 \times 10^{-5}$	$4.75 \pm 0.40 \times 10^{-4}$	$1.65 \pm 0.15 \times 10^{-4}$		$1.22 \pm 0.10 \times 10^{-4}$	$1.21 \pm 0.08 \times 10^{-4}$		$9.64 \pm 0.96 \times 10^{-5}$
k_{cat} [s^{-1}]			$5.21 \pm 0.27 \times 10^{0}$	$3.64 \pm 0.18 \times 10^{2}$	$6.28 \pm 0.21 \times 10^{0}$		$1.55 \pm 0.05 \times 10^{1}$	$1.39 \pm 0.05 \times 10^{2}$		$4.24 \pm 0.43 \times 10^{0}$
k_{cat}/K_M [$s^{-1}M^{-1}$]			$1.49 \pm 0.22 \times 10^{5}$	$7.66 \pm 0.64 \times 10^{5}$	$3.80 \pm 0.34 \times 10^{4}$		$1.26 \pm 0.10 \times 10^{5}$	$1.59 \pm 0.11 \times 10^{6}$		$4.40 \pm 0.44 \times 10^{4}$
***p*NP octanoate (C8:0)**	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable		not determinable	not determinable
K_M [M]								$1.19 \pm 0.11 \times 10^{-4}$		
k_{cat} [s^{-1}]								$1.53 \pm 0.06 \times 10^{2}$		
k_{cat}/K_M [$s^{-1}M^{-1}$]								$1.28 \pm 0.24 \times 10^{6}$		
***p*NP decanoate (C10:0)**	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable		not determinable	not determinable
K_M [M]								$6.56 \pm 0.44 \times 10^{-5}$		
k_{cat} [s^{-1}]								$4.88 \pm 0.12 \times 10^{1}$		
k_{cat}/K_M [$s^{-1}M^{-1}$]								$7.43 \pm 0.49 \times 10^{5}$		
***p*NP dodecanoate (C12:0)**	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable		not determinable	not determinable
K_M [M]								$6.40 \pm 0.69 \times 10^{-5}$		
k_{cat} [s^{-1}]								$1.07 \pm 0.39 \times 10^{1}$		
k_{cat}/K_M [$s^{-1}M^{-1}$]								$1.68 \pm 0.18 \times 10^{5}$		
***p*NP myristate (C14:0)**	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable		not determinable	not determinable
K_M [M]								$3.87 \pm 0.33 \times 10^{-5}$		
k_{cat} [s^{-1}]								$1.66 \pm 0.07 \times 10^{0}$		
k_{cat}/K_M [$s^{-1}M^{-1}$]								$4.30 \pm 0.37 \times 10^{4}$		
***p*NP palmitate (C16:0)**	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable	not determinable		not determinable	not determinable
K_M [M]								$9.14 \pm 0.10 \times 10^{-6}$		
k_{cat} [s^{-1}]								$6.49 \pm 0.06 \times 10^{1}$		
k_{cat}/K_M [$s^{-1}M^{-1}$]								$6.49 \pm 0.02 \times 10^{4}$		

Supplementary Table 2 | List of primers

Oligos for cloning	
All constructs for heterologous expression in *E. coli* were synthesized as codon-optimized genes with Gateway cloning sites included so that they could be used without performing PCR. Additionally, coding sequences of *BnSOBER1*, *BnTIPSY1*, *CaTIPSY1*, *GmTIPSY1*, *SlTIPSY1*, *hopZ1b* and *hopZ2* were synthesized with Gateway cloning sites as well.	
In planta experiments:	
ACIP1 3'	GGGGACCACTTTGTACAAGAAAGCTGGGTCTCATCAGTGTATAGAATCTATGTTCTTG
ACIP1 5'	GGGGACAAGTTTGTACAAAAAAGCAGGCTCCATGAAGGAGATGCAGGCAATAG
At5g20060 3'	GGGGACCACTTTGTACAAGAAAGCTGGGTTACCTTCGAGGCTGAGCGTGG
At5g20060 5'	GGGGACAAGTTTGTACAAAAAAGCAGGCTATGAGTATCTCCGGTGCTGC
AtSOBER1 ∆C 3'	GGGGACCACTTTGTACAAGAAAGCTGGGTTACAAGTAGACGACGAACCTTTC
AtSOBER1 3'	GGGGACCACTTTGTACAAGAAAGCTGGGTTGTGGAACATTTCTTTAAGACAATT
AtSOBER1 5'	GGGGACAAGTTTGTACAAAAAAGCAGGCTATGGCTCGAACTTTCATCTTGTGG
AtTIPSY1 ∆N 5'	GGGGACAAGTTTGTACAAAAAAGCAGGCTATGGCTCGAACCTTCATCTTATGG
AtTIPSY1 3'	GGGGACCACTTTGTACAAGAAAGCTGGGTTTGAAGAAGAAGAAGAGCTCTGC
AtTIPSY1 5'	GGGGACAAGTTTGTACAAAAAAGCAGGCTATGCGAACAAGTAGACTGAAGAAGC
avrBsT 3'	GGGGACCACTTTGTACAAGAAAGCTGGGTCTAAGACTCAATAGTCTTTCTGATC
avrBsT 5'	GGGGACAAGTTTGTACAAAAAAGCAGGCTCCATGAAGAACTTCATGAGATCAC
Mutagenesis oligos	
Heterologous expression in *E. coli*:	
AtSOBER1 F65L	GCTGGTTTGATGTGCCGGAGCTGCCGCTGAAAGTGGGCAGCCCGATTGACGAGAG
AtSOBER1 H192A	CAAGGCCTATCCGGGCCTGGGCGCGAGCATTAGCAATAAAGAGCTG
AtSOBER1 S106A	GAGCTGGTTTGATATTCCGGAACTGCCGTTTACCGCAGGCAGCCCGAAAGATGAGAGTAG
AtSOBER1 L63A	GCTGGTTTGATGTGCCGGAGGCGCCGTTTAAAGTGGGCAGCCC
AtTIPSY1 L110F	GGAAAACGTGTTCATCTGCGGCCTGGCGCAGGGTGGTGCACTGACCCTGGCAAG
In planta experiments:	
AtSOBER1 L63A	GGTTTGACGTTCCTGAAGCTCCTTTTAAAGTGGGC
AtSOBER1 LPF63APA	GGTTTGACGTTCCTGAAGCTCCTGCTAAAGTGGGCTCTCCAATTGATG
AtSOBER1 S106A	CGTGTTTATCTGTGGATTAGCTCAAGGAGGAGCATTAACC
avrBsT C222A	GCTCAGAAGTCTCTTTTTGATGCTGTTATTTTTTCTTTGAACATG