Appendix to Biedermann et al.

Appendix table of content

Appendix Tables

Appendix Table S1 – Significance table for Fig. 4I

	WT -B -R	WT +B -R	WT -B +R	WT +B +R	rbr1 -B -R	rbr1 +B -R	rbr1 -B +R	rbr1 +B +R
WT -B -R		*	-	*	-	**	-	**
WT +B -R			*	-	-	*	-	*
WT -B +R				*	-	***	-	***
WT +B +R					*	-	*	-
rbr1 -B -R						**	-	**
rbr1 +B -R							**	-
rbr1 -B +R								**
rbr1 +B +R								

- No significant differences

* P value < 0.05

** P value < 0.01

*** P value < 0.001

Appendix Table S2 – Primer sequences

Genotyping

Wildtype	**Designation**	**Sequence**
CDKA;1	A03	CAGATCTCTTCCTGGTTATTCACA
	A04	TGTACAAGCGAATAAAGACATTTGA
E2FA	E2Fa FW	ATGTCCGGTGTCGTACGATCTTC
	E2Fa RW	TCATCTCGGGGTTGAGTCAAC
KU70	A17	AACCCTTACTTAGATATGATTTAC
	A18	AGGGTGTTATTCCGAGGCTTACT
RAD51	A302	GGTTCCATCACAGAGTTATATGG

	A303	AGCCATGATATTCCCACCAATC
RBR1	M206	CTTCCACAGCCCGGTCGTTTC
	M207	GATTACCGCAGCATTCTAGTTGAACGC
WEE1	A06	TCAATAAGGCTTGGTTTCTTCAGT
	A07	AGGCATGTAACGTGCATCTC

T-DNA insertion allele	**Designation**	**Sequence**
cdka;1	A01	GCGTGGACCGCTTGCTGCAACTCTCTCAGG
	A02	CCAGATTCTCCGTGGAATTGCG
e2fa-2	GABI-Kat LB	ATATTGACCATCATACTCATTGC
	E2Fa RW	TCATCTCGGGGTTGAGTCAAC
ku70	A18	AGGGTGTTATTCCGAGGCTTACT
	LBd1	TCGGAACCACCATCAAACAG
rad51-1	A302	GGTTCCATCACAGAGTTATATGG
	GABI-Kat LB	ATATTGACCATCATACTCATTGC
rbr1-2	M206	CTTCCACAGCCCGGTCGTTTC
	J504	GCGTGGACCGCTTGCTGCAACTCTCTCAGG
wee1-1	A05	CCCATTTGGACGTGAATGTAGACAC
	A06	TCAATAAGGCTTGGTTTCTTCAGT

qPCR

Target	**Forward primer**	**Reverse primer**
AHP2	GCGCAAGCGTAAGAGGATGTTC	CCAAGCTCCTCCTTTAGTTCCTTC
ATM	TTGGTCTTGGTGACCGACATGC	TCTTGTCAGTCTGAACGGAACCC
ATR	GTGCCATTCAGATTGACCCAGAAC	TGCCCTCATATCCAGTGATGCC
BRCA1	TGCATCCATTAAGTTGCCCTGTG	TAGGCTGAGAGTGCAGTGGTTC

FAN1	AGTGAAGGACGCAAATGAACTCG	TGAGGTGCGACTGAACACCTTG
KU70	AGCAGTCGATTTATGGCGATGACC	CCACAGTCAAGTCCTTCAGCTTTC
LIG4	TTGGCTTCAAGTGAGAACAGAGC	TGACCCACTTCATCTCCTGAGC
MLH1	ACGACGGTCACGGTATTAGACG	AGCTTCGATGTTGTATGTCTCTCG
MRE11	AACAAATCTCAGCCTCGGGTTAC	AGAAGTTGTTCCGCTTGAGAGGTC
MSH4	TGAGAACAGAGCCAAAGAGGTTGG	AGATGCAGTGAAGCCGATCTTAGG
MSH5	ACGAGAGCTGCTTGCCTGTTTC	TCTGTGTCTGGCCTAAGAACGC
MUS81	TTGCCATTCAGCTAATGCAGGTC	TCTTCTTGCGCCGAGACATCTG
NBS1	CTTCACTGATACCACCATCCGTTG	GCTTCAGAATCCGCTACCACTG
PARP2	ATGCTACTCTGGCACGGTTCAC	AGGAGGAGCTATTCGCAGACCTTG
PCNA1	CGGTGACATTGGAACCGCTAAC	TCACAATTGCATCTTCCGGCTTG
RAD51	TTCCGCTCTGGAAAGACTCAGC	ACCTCCTTGATCCATGGGAAGTTG
RECQ2	ATGCTTCGTGGTGGGACAACTC	GCAGCCAAACCCATAACCTGATCC
SOG1	CCATGAGGTTTCTCTTGCCGAGAC	TCAGGCCCAGAACTTGGTCTTTC
TSO2	TTTCGCTTGCGTCGAAGGTATC	AGGCATGAGTCCTCGTTTCTTCAG

Reference genes	**Forward primer**	**Reverse primer**
At1g02410	ATCTGGTACCGTCACTGAAAGGG	TGCATCCCATCTGCAACATCAGC
At4g26410	TCGTCTTGCTAAGTCCGTCCAC	GCCGAAGTCCGTCCATCAAATCAG
At4g30520	TTCCCAGCAAGGACTTTCAACG	CAGAACAAATCTCAGGTGGGTTGC
At5g36210	AGAGCGGTTGTTAAGGCAGTGG	TCTGCCTTGCCAGAAGATACCAAG

ChIP

Designation	**Sequence**
RAD51_+1209_F	ATGCTGAGGGAACATTCAGG
RAD51_+1330_R	TCCAAACCTGCATCATTTCA
RAD51_+228_F	CGCGATGTGAAATAGGTGTG
RAD51_+323_R	ACCCCCAAAAAGTGTCGATT

RAD51_-558_F	TGTTGGAATTGTGGTGGTTC
RAD51_-489_R	TTTGACCGCCGAGTGATAC
RAD51_-1063_F	GGGTCCATAGCTCAGTGATAGAG
RAD51_-1002_R	GAAAACATATAGGGCCCAACC
RAD51_E2F(-113)_F	GTTGTGGCGCTTCTTTCAAT
RAD51_E2F(-17)_R	GATTCGGGTCACCAGAGAAA
ACT7(At5g09810)_F	GTTGCCATTCAGGCCGTTCTTTC
ACT7(At5g09810)_R	CAGAATCGAGCACAATACCGGTTG
MCM_F4	TCCCGCCAAAACTCATAGTC
MCM_R4	TGACATCGTTGCTTCGTCTC
ORC3_F	CCAATTCCGGTCTAGTCTGG
ORC3_R	TGGAGCAATCGAAAACGACG

Appendix Figure Legends

Appendix Figure S1 – The *rbr1* mutant line is hypersensitive to BLM and cisplatin.

- **A** Root tip phenotypes of eight day-old seedlings germinated and grown on medium containing no supplement and transferred to medium containing BLM (6µg/ml) for two days.

- **B** Comparison of root growth of wild-type and *rbr1* plants on cisplatin (cisPt). Plants were germinated on MS medium containing no supplement and transferred to medium with 15µM cisPt three days after germination. Daily root growth was measured one, two and three days after transfer (dat). Error bars signify the standard deviation in three independent experiments. Two asterisks indicate significance higher than 99% as calculated by Student's T test.

- **C** Root tip phenotypes of eight day-old seedlings germinated and grown on medium containing no supplement and transferred to medium containing cisPt (15µM) for one or two days respectively.

Appendix Figure S2 – Cell death in root tips upon drug treatment.

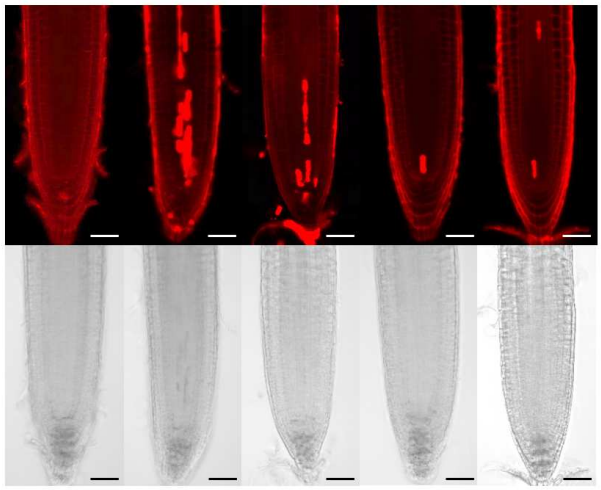
- Root tip phenotypes of ten day-old seedlings germinated and grown on medium containing HU (1mM) or no supplement (-). Upper rows show cell death visualized by propidium iodide staining, lower rows show brightfield microscopic images of root tips. Scale bars: 50µm.

Appendix Figure S3 – Co-localization of RBR1 and RAD51 to γH2AX foci.

- Z-stack image of co-localization of RBR1 (green) and RAD51 (red) to γH2AX foci (grey) in immuno-stained spreads of BLM-treated root tips of PRO_{RBR1}*mCherry:RBR1 rbr1-3* plants, counter-stained with DAPI (DNA, blue).

Appendix Figure S1

A



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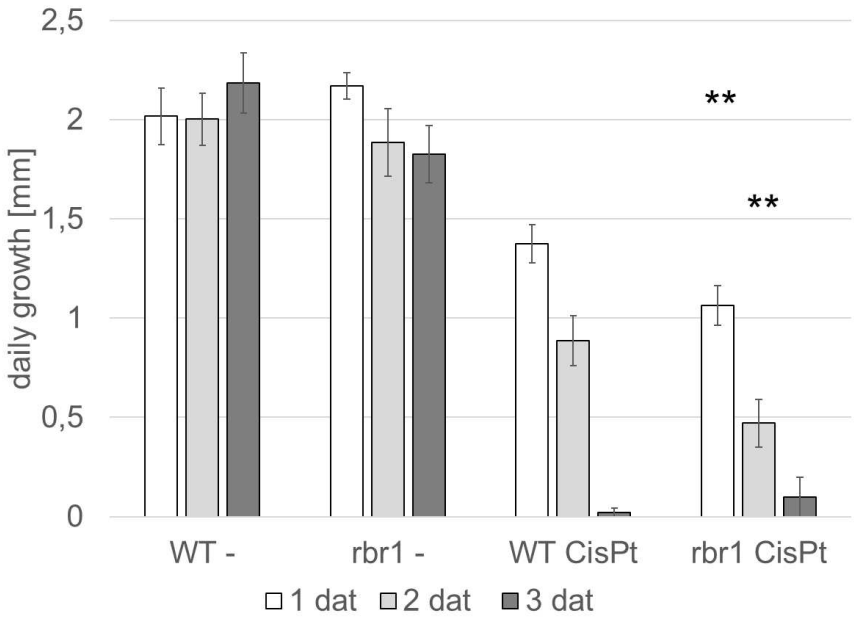
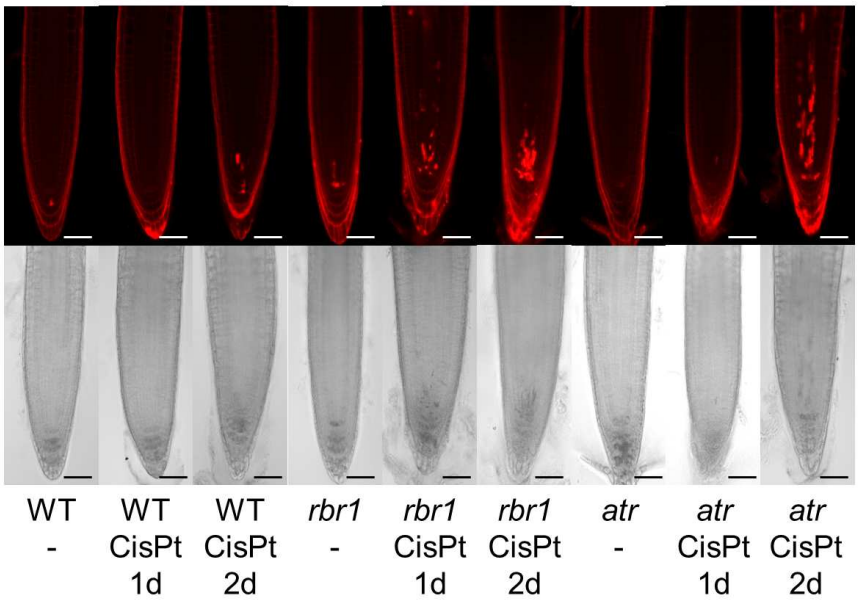
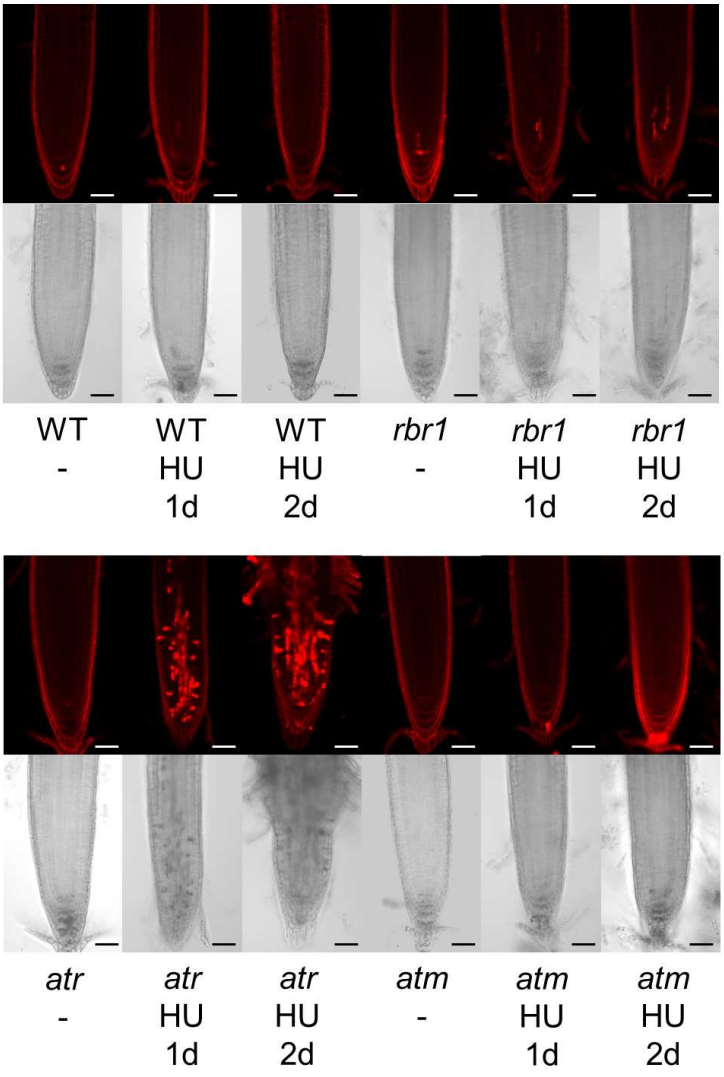


C



Appendix Figure S2



Appendix Figure S3