

Supplementary material

Ultraviolet-B radiation exposure lowers the antioxidant capacity in the *Arabidopsis thaliana* *pdx1.3-1* mutant and leads to glucosinolate biosynthesis alteration in both wild type and mutant

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Table S1. Means, standard deviations, and no. of replicates for F_v/F_m results described in Fig. 2.

Day	Genotype	Treatment	No. of replicates	Mean	Standard deviation
0	Col-0	control	7	0.779	0.0132
	<i>pdx1.3-1</i>	control	6	0.767	0.0238
1	Col-0	control	6	0.805	0.0085
	Col-0	UV-A	9	0.787	0.0269
	Col-0	UV-A+B	6	0.797	0.0097
	<i>pdx1.3-1</i>	control	8	0.790	0.0199
	<i>pdx1.3-1</i>	UV-A	9	0.791	0.0065
	<i>pdx1.3-1</i>	UV-A+B	9	0.783	0.0196
2	Col-0	control	9	0.791	0.0108
	Col-0	UV-A	11	0.792	0.0097
	Col-0	UV-A+B	9	0.790	0.0146
	<i>pdx1.3-1</i>	control	11	0.774	0.0255
	<i>pdx1.3-1</i>	UV-A	11	0.790	0.0123
	<i>pdx1.3-1</i>	UV-A+B	9	0.785	0.0121
3	Col-0	control	9	0.794	0.0194
	Col-0	UV-A	11	0.785	0.0109
	Col-0	UV-A+B	11	0.779	0.0157
	<i>pdx1.3-1</i>	control	9	0.783	0.0101
	<i>pdx1.3-1</i>	UV-A	9	0.773	0.0270
	<i>pdx1.3-1</i>	UV-A+B	9	0.758	0.0315
4	Col-0	control	9	0.780	0.0194
	Col-0	UV-A	10	0.767	0.0282
	Col-0	UV-A+B	9	0.788	0.0066
	<i>pdx1.3-1</i>	control	11	0.772	0.0231
	<i>pdx1.3-1</i>	UV-A	9	0.781	0.0135
	<i>pdx1.3-1</i>	UV-A+B	17	0.718	0.0808
8	Col-0	control	9	0.766	0.0172
	Col-0	UV-A	9	0.786	0.0073
	Col-0	UV-A+B	9	0.776	0.0149
	<i>pdx1.3-1</i>	control	9	0.754	0.0410
	<i>pdx1.3-1</i>	UV-A	9	0.786	0.0122
	<i>pdx1.3-1</i>	UV-A+B	9	0.753	0.0436
15	Col-0	control	12	0.708	0.0612
	Col-0	UV-A	9	0.724	0.0260
	Col-0	UV-A+B	12	0.763	0.0226
	<i>pdx1.3-1</i>	control	9	0.788	0.0070
	<i>pdx1.3-1</i>	UV-A	9	0.777	0.0209
	<i>pdx1.3-1</i>	UV-A+B	9	0.749	0.0296

Table S2. Results from ^{*}OH radical antioxidant capacity measurements (aox-OHrad) and the concentration of the different glucosinolate (GS) compounds (in $\mu\text{mol g}^{-1}$ dry weight).

Sample	antioxidant capacity (OH radical)	3-methyl-sulfinyl-propyl	4-methyl-sulfinyl-butyl	5-methyl-sulfinyl-pentyl	3-methyl-thio-propyl	4-methyl-thiobutyl	7-methyl-sulfinyl-heptyl	Indolyl-3-methyl	8-methyl-sulfinyl-octyl	4-methoxy-3-indolyl-methyl	1-methoxy-3-indolyl-methyl	7-methyl-thioheptyl	8-methyl-thiooctyl	Total GS
	aox-OHrad	3-m-spr	4-m-sbut	5-m-spe	3-m-tptr	4-m-tbut	7-m-shep	i-3-m	8-m-soct	4-m-3-im	1-m-3-im	7-m-thep	8-met-toct	total GS
col A+B	28.60	0.993	8.562	0.210	0.048	0.165	0.259	2.214	0.997	0.455	0.020	0.023	0.050	13.997
col A+B	27.67	1.062	8.894	0.206	0.039	0.173	0.235	2.141	1.049	0.489	0.018	0.029	0.053	14.386
col A+B	30.37	0.922	8.373	0.221	0.039	0.130	0.247	2.917	0.844	0.454	0.051	0.036	0.071	14.305
pdx A+B	8.05	0.522	4.681	0.193	0.028	0.426	0.183	1.372	0.933	0.253	0.010	0.038	0.071	8.710
pdx A+B	6.25	0.633	5.863	0.246	0.039	0.578	0.215	1.627	1.204	0.307	0.014	0.050	0.097	10.873
pdx A+B	9.41	0.556	5.415	0.225	0.031	0.291	0.184	1.238	0.907	0.316	0.010	0.021	0.039	9.234
col A	19.50	0.931	7.704	0.164	0.021	0.137	0.205	2.201	0.724	0.406	0.020	0.019	0.034	12.567
col A	20.51	0.854	7.395	0.175	0.023	0.118	0.178	2.339	0.640	0.408	0.028	0.023	0.048	12.229
col A	23.40	1.316	10.931	0.258	0.043	0.196	0.282	4.151	1.073	0.532	0.068	0.038	0.084	18.974
pdx A	21.56	0.674	6.699	0.269	0.039	0.397	0.221	1.668	1.186	0.324	0.048	0.030	0.059	11.613
pdx A	20.43	0.523	5.006	0.183	0.030	0.416	0.185	1.527	1.004	0.348	0.023	0.036	0.074	9.355
pdx A	22.08	0.632	5.933	0.236	0.041	0.290	0.212	1.773	0.995	0.444	0.017	0.030	0.046	10.651
col 0	19.21	0.883	7.479	0.176	0.023	0.093	0.171	2.444	0.561	0.556	0.047	0.024	0.053	12.512
col 0	18.81	0.843	6.900	0.146	0.020	0.082	0.150	2.055	0.485	0.481	0.036	0.022	0.043	11.263
col 0	20.26	0.959	7.500	0.147	0.025	0.142	0.192	2.379	0.605	0.384	0.022	0.022	0.032	12.409
pdx 0	20.30	0.537	5.186	0.262	0.025	0.210	0.181	1.717	0.737	0.465	0.019	0.024	0.045	9.408
pdx 0	25.59	0.737	7.551	0.331	0.043	0.438	0.234	1.961	1.251	0.599	0.020	0.034	0.066	13.266
pdx 0	19.30	0.886	9.047	0.438	0.060	0.216	0.284	2.686	1.117	0.774	0.047	0.031	0.069	15.653

Table S3. Ordinary Least Squares Regression fit of data in Figure 5.

x variable: hydroxyl radical antioxidant capacity			
y variable: 4-methyl-sulfinylbutyl content			
Slope a:	0.15294	Std. error a	0.049495
t:	3.09	p (slope):	0.0070252
Intercept b:	4.1035	Std. error b:	1.0427
95% bootstrapped confidence intervals:			
Slope a:	(0.084569, 0.20328)		
Intercept b:	(3.0798, 5.4682)		
Correlation:			
r:	0.61134		
r ² :	0.37373		
t:	3.09		
p (uncorr.):	0.0070252		