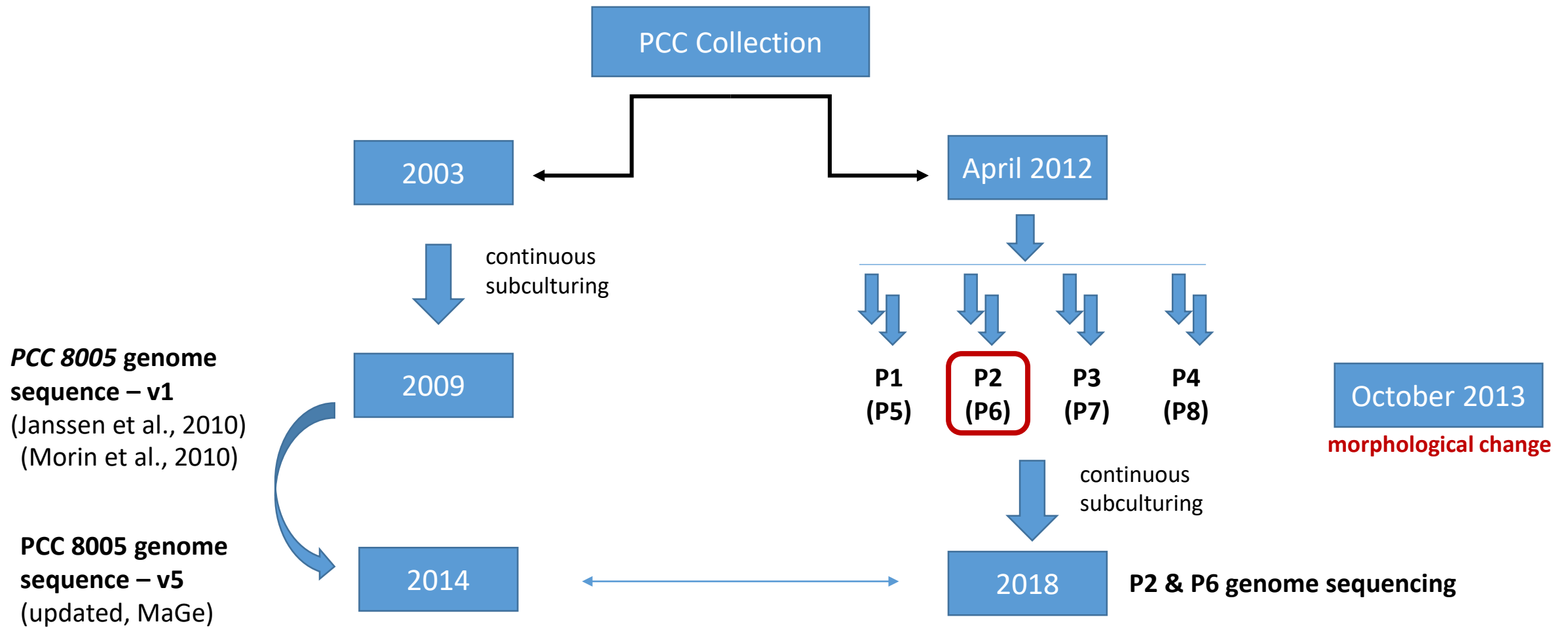


Fig. S1

Strain history



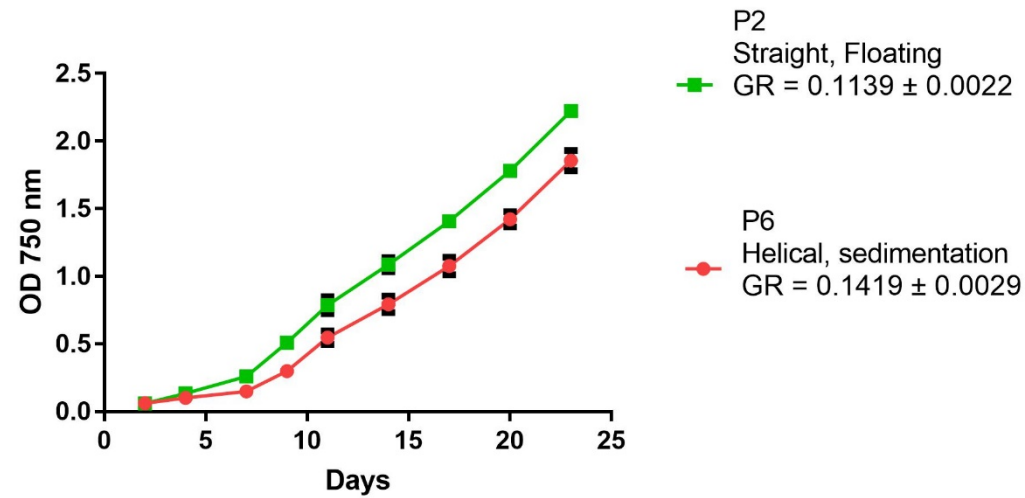
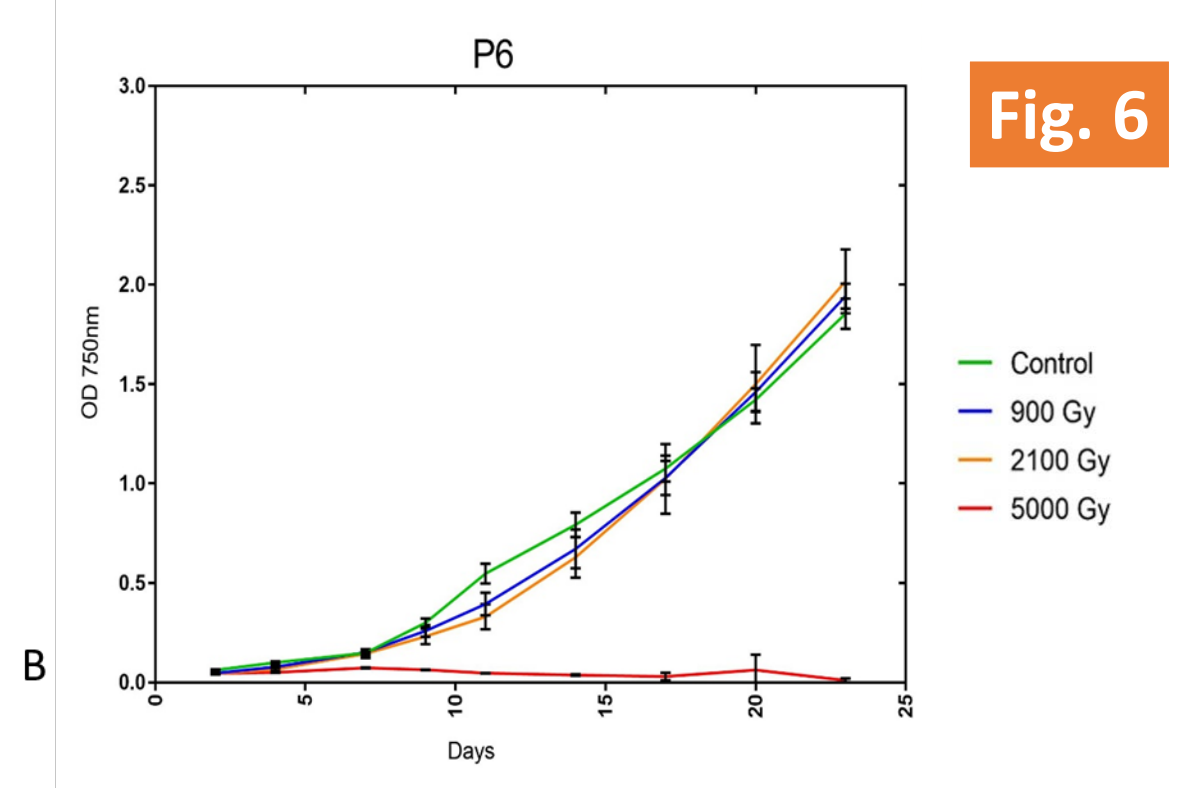
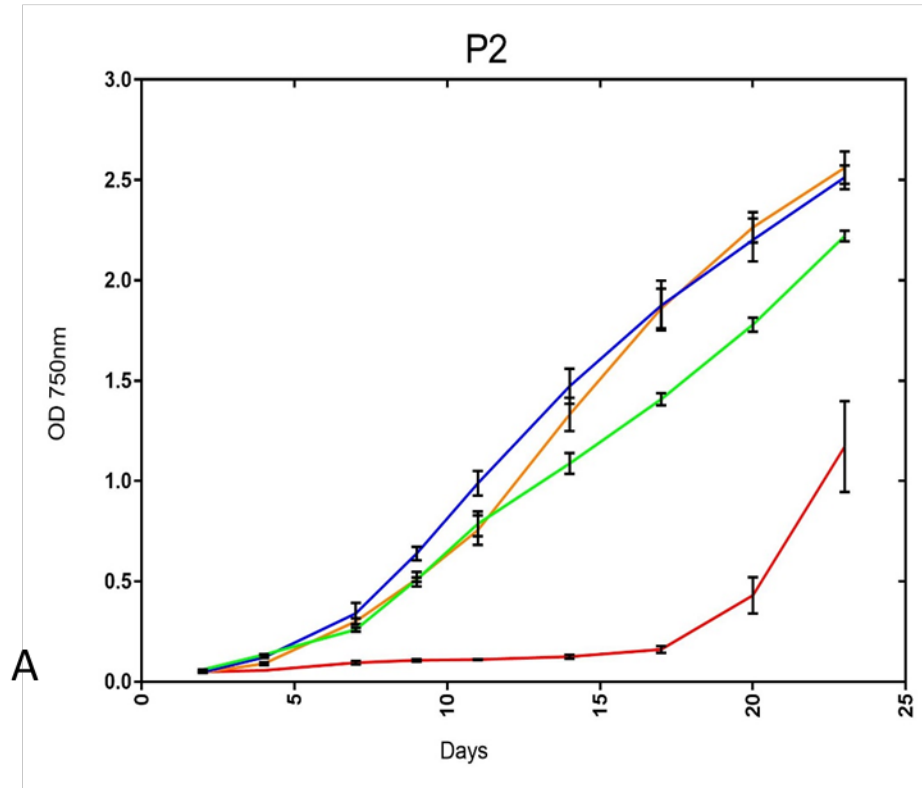


Table S1

T2- 20th day and T1- 9th day



One way ANOVA was performed on the Mean values of Growth rate of Control and radiation exposed cultures, with T2 as 20th day and T1 as 9th day

Table S2

Sidak's multiple comparisons test	Mean Diff,	95,00% CI of diff,	Significant?	Summary	Adjusted P Value
C vs. 900 Gy	0,00131	-0,02086 to 0,02348	No	ns	0,9975
C vs. 2100 Gy	-0,02146	-0,04363 to 0,0007138	No	ns	0,0578
C vs. 5000 Gy	-0,01193	-0,0341 to 0,01024	No	ns	0,3743

Sidak's multiple comparisons test	Mean Diff,	95,00% CI of diff,	Significant?	Summary	Adjusted P Value
C vs. 900	0,8085	-0,07661 to 1,694	No	ns	0,0739
C vs. 2100	0,7955	-0,08962 to 1,681	No	ns	0,079
C vs. 5000	1,019	0,1341 to 1,904	Yes	*	0,0255

O.D. VS DRY WEIGHT GRAPHS

Fig. S2

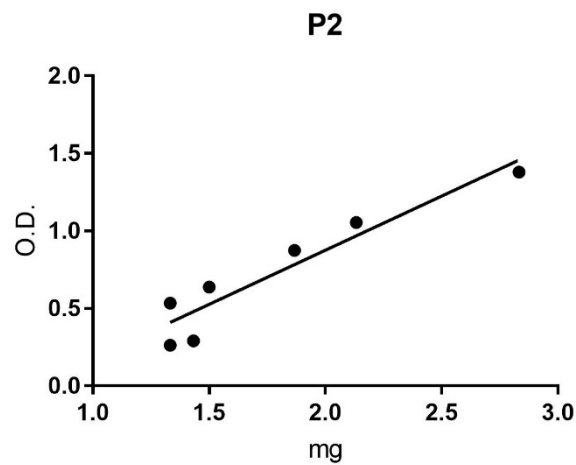


Fig. S3

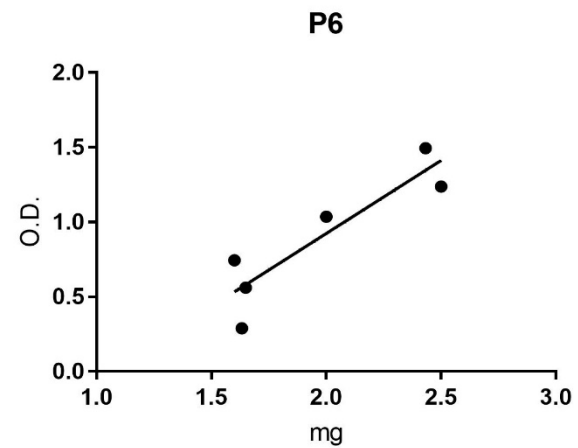


Table S3

YIntercept	-0,5213
Slope	0,6984
R square	0,8932

Table S4

YIntercept	-1,032
Slope	0,9775
R square	0,8137

Glutathione and Carotenoids	O.D.	Dry weight calculated
P6	0,583	1,652174
P2	0,802	1,894759
TAO, PC, APC, Chlorophyll and Trehalose		
P6	0,831	1,905882
P2	1,139	2,377291

Table S5

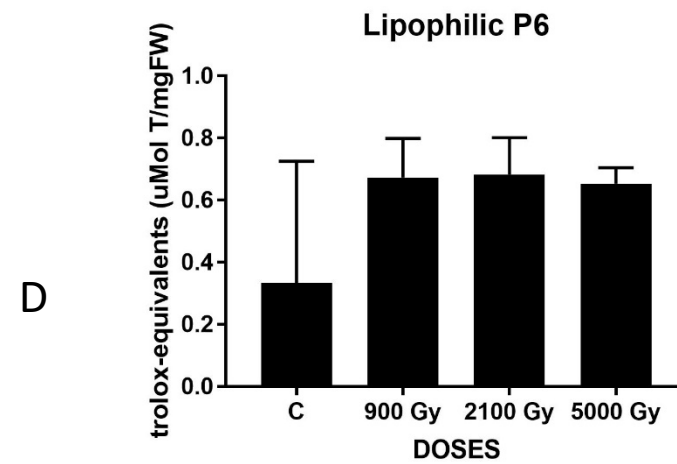
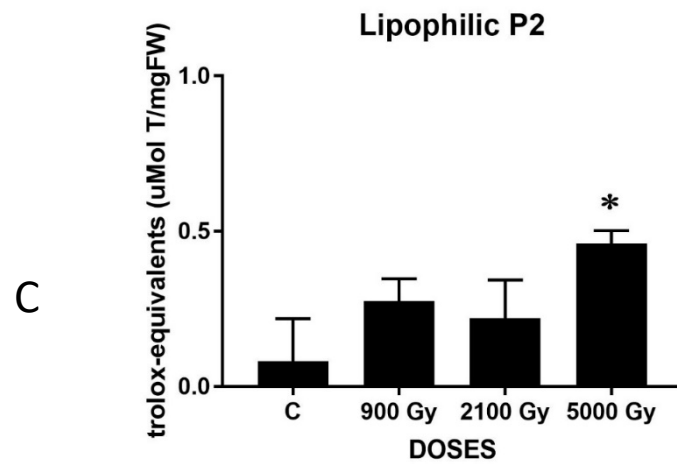
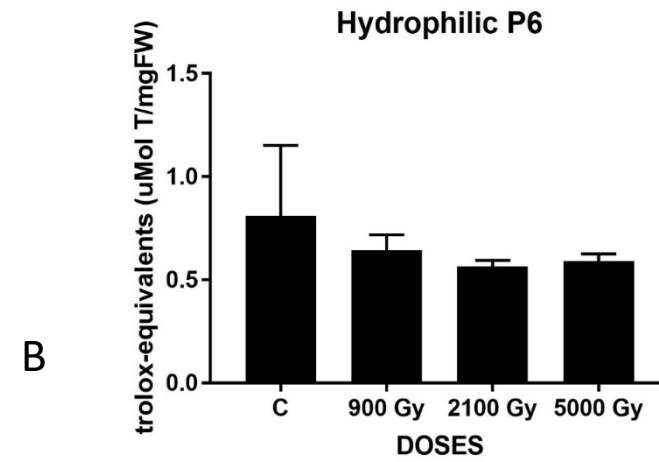
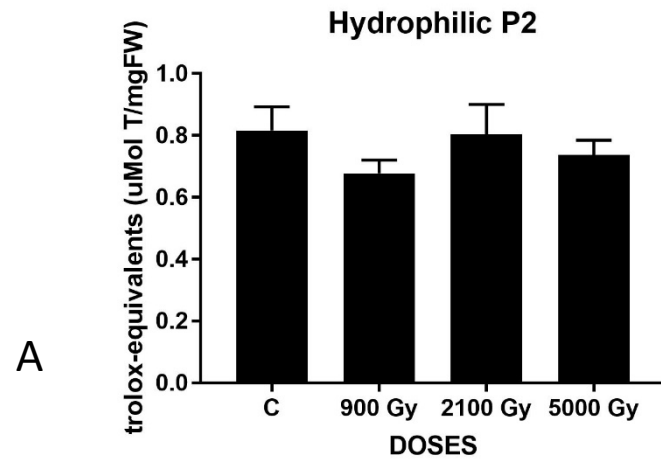
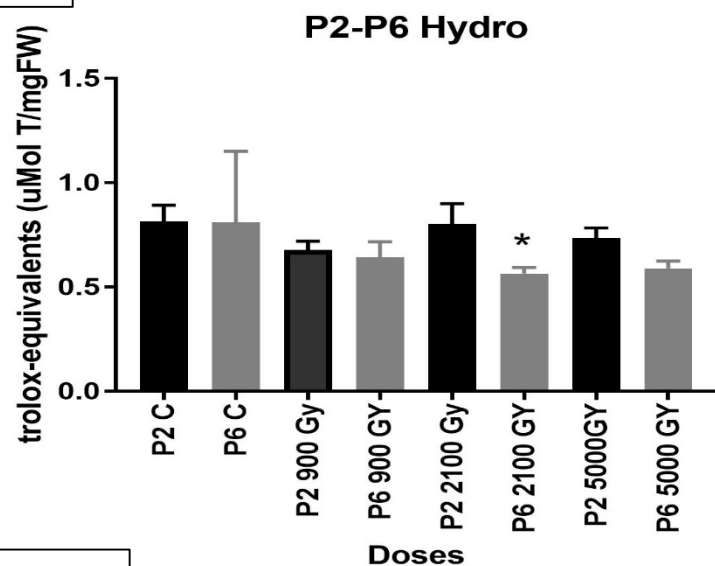


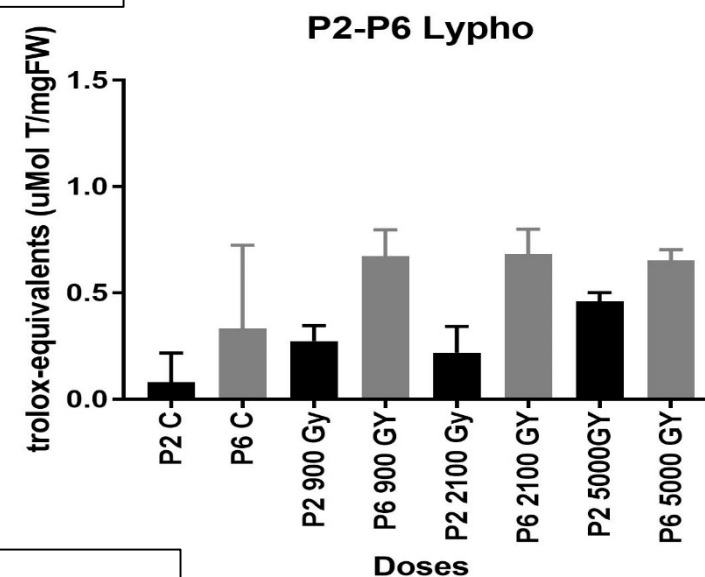
Fig. 7

Table S6

HYDROPHILIC P6			
Dunn's multiple comparisons test	Mean rank diff,	Significant?	Adjusted P Value
C vs. 900 Gy	0,1667	No	>0,9999
C vs. 2100 Gy	3,667	No	0,634
C vs. 5000 Gy	2,167	No	>0,9999
LYPHOPHILIC P6			
C vs. 900 Gy	-2,833	No	>0,9999
C vs. 2100 Gy	-3,5	No	0,6985
C vs. 5000 Gy	-2,333	No	>0,9999
HYDROPHILIC P2			
C vs. 900 Gy	6,5	No	0,0777
C vs. 2100 Gy	0,3333	No	>0,9999
C vs. 5000 Gy	3,167	No	0,8335
LYPHOPHILIC P2			
C vs. 900 Gy	-3,667	No	0,6388
C vs. 2100 Gy	-2,333	No	>0,9999
C vs. 5000 Gy	-8	Yes	0,0197

Fig. S4**Table S7**

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P2 C vs. P6 C	5	No	ns	>0,9999
P2 900 Gy vs. P6 900 GY	2,333	No	ns	>0,9999
P2 2100 Gy vs. P6 2100 GY	14,67	Yes	*	0,0438
P2 5000GY vs. P6 5000 GY	10	No	ns	0,3312

Fig. S5**Table S8**

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P2 C vs. P6 C	-6,333	No	ns	>0,9999
P2 900 Gy vs. P6 900 GY	-10,5	No	ns	0,2754
P2 2100 Gy vs. P6 2100 GY	-12,83	No	ns	0,1047
P2 5000GY vs. P6 5000 GY	-5,667	No	ns	>0,9999

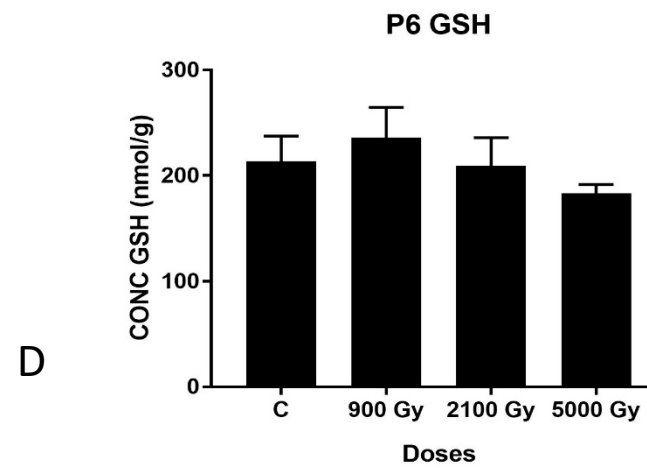
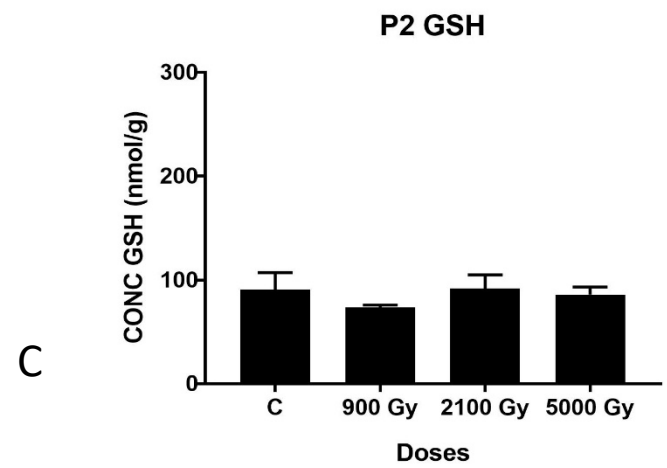
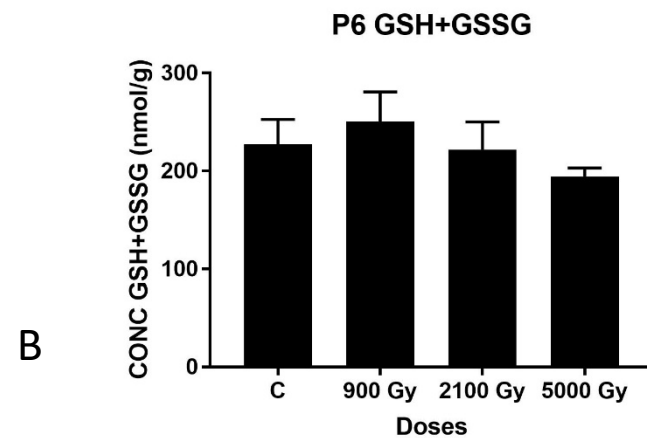
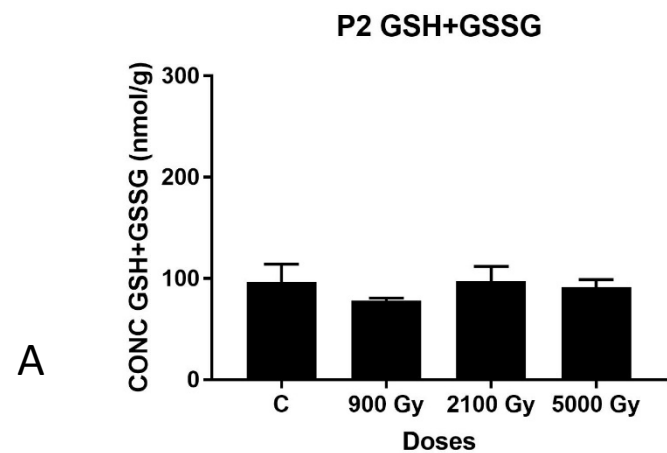


Fig. 8

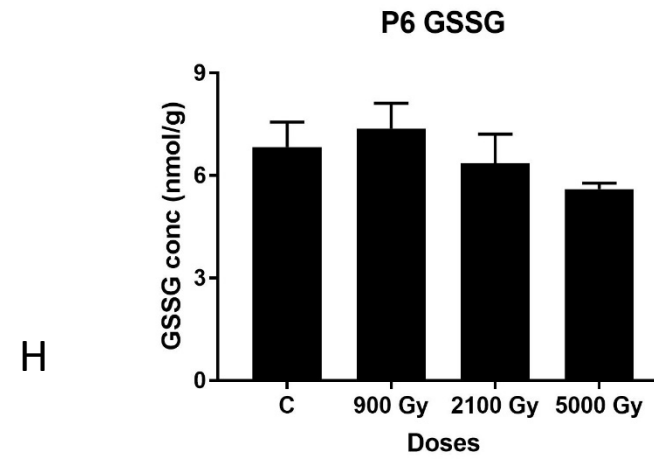
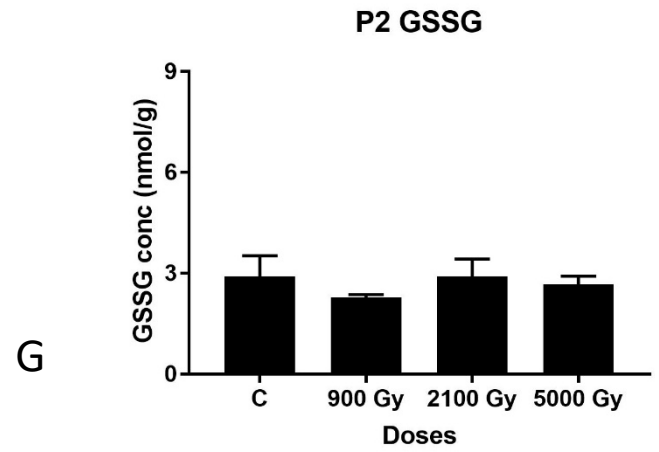
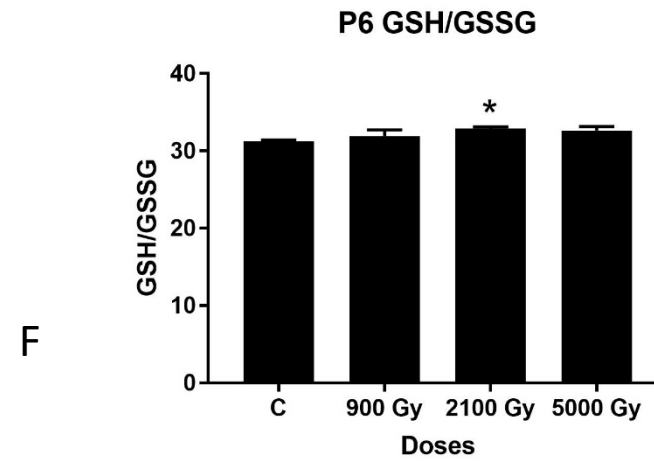
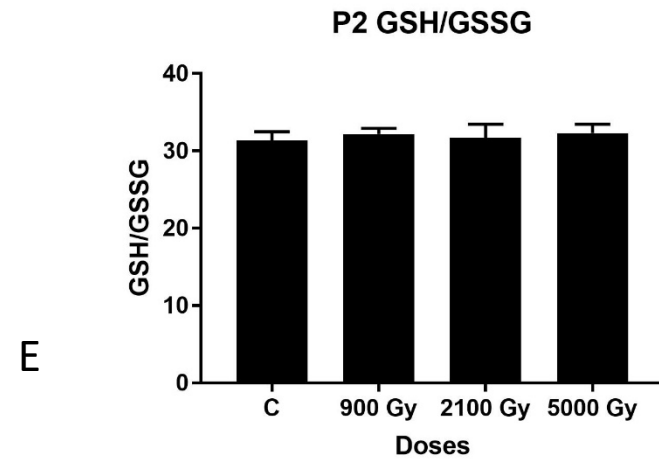


Fig. 8
Continued

P2 GSH			
Dunn's multiple comparisons test	Mean rank diff,	Significant?	Adjusted P Value
C vs. 900 Gy	5,333	No	0,2101
C vs. 2100 Gy	-0,3333	No	>0,9999
C vs. 5000 Gy	1	No	>0,9999
P6 GSH			
C vs. 900 Gy	-2,333	No	>0,9999
C vs. 2100 Gy	1,333	No	>0,9999
C vs. 5000 Gy	4,333	No	0,4231
P2 GSH/GSSG			
C vs. 900 Gy	-2,667	No	>0,9999
C vs. 2100 Gy	-1,667	No	>0,9999
C vs. 5000 Gy	-3	No	0,9245
P6 GSH/GSSG			
C vs. 900 Gy	-2,333	No	>0,9999
C vs. 2100 Gy	-7,333	Yes	0,0382
C vs. 5000 Gy	-5,667	No	0,1627
P2 GSH+GSSG			
C vs. 900 Gy	5,333	No	0,2101
C vs. 2100 Gy	-0,3333	No	>0,9999
C vs. 5000 Gy	1	No	>0,9999
P6 GSH+GSSG			
C vs. 900 Gy	-2,333	No	>0,9999
C vs. 2100 Gy	1,333	No	>0,9999
C vs. 5000 Gy	4,333	No	0,4231
P2 GSSG			
C vs. 900 Gy	4,667	No	0,3388
C vs. 2100 Gy	-0,6667	No	>0,9999
C vs. 5000 Gy	0,6667	No	>0,9999
P6 GSSG			
C vs. 900 Gy	-1,667	No	>0,9999
C vs. 2100 Gy	2,667	No	>0,9999
C vs. 5000 Gy	5	No	0,2683

Table S9

Fig. S6

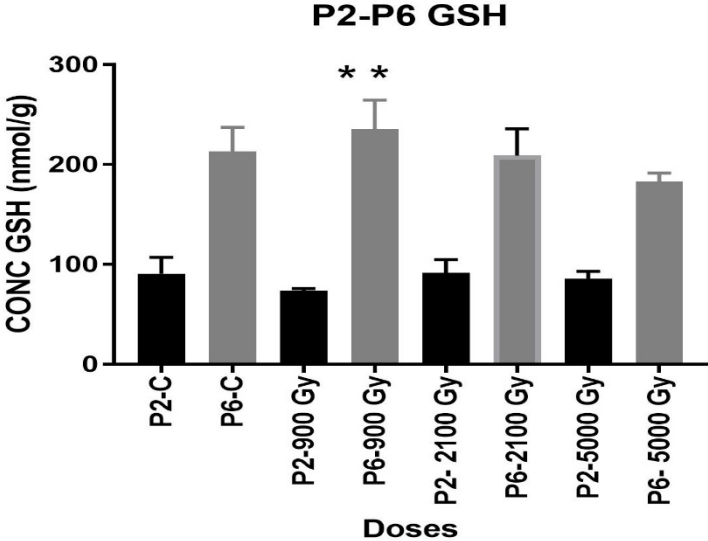


Table S10

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P2-C vs. P6-C	-11,33	No	ns	0,1986
P2-900 Gy vs. P6-900 Gy	-19	Yes	**	0,004
P2- 2100 Gy vs. P6-2100 Gy	-9,667	No	ns	0,3763
P2-5000 Gy vs. P6- 5000 Gy	-8	No	ns	0,6634

Fig. S7

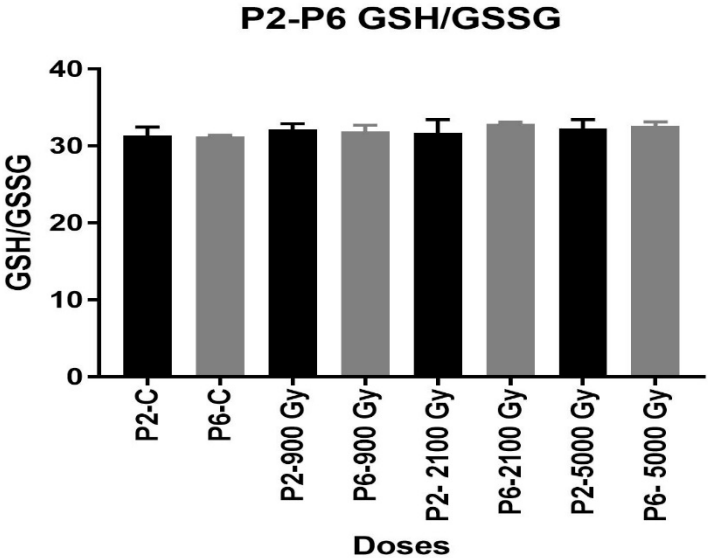


Table S11

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P2-C vs. P6-C	1,333	No	ns	>0,9999
P2-900 Gy vs. P6-900 Gy	2,667	No	ns	>0,9999
P2- 2100 Gy vs. P6-2100 Gy	-7,333	No	ns	0,8161
P2-5000 Gy vs. P6- 5000 Gy	-2,667	No	ns	>0,9999

Fig. S8

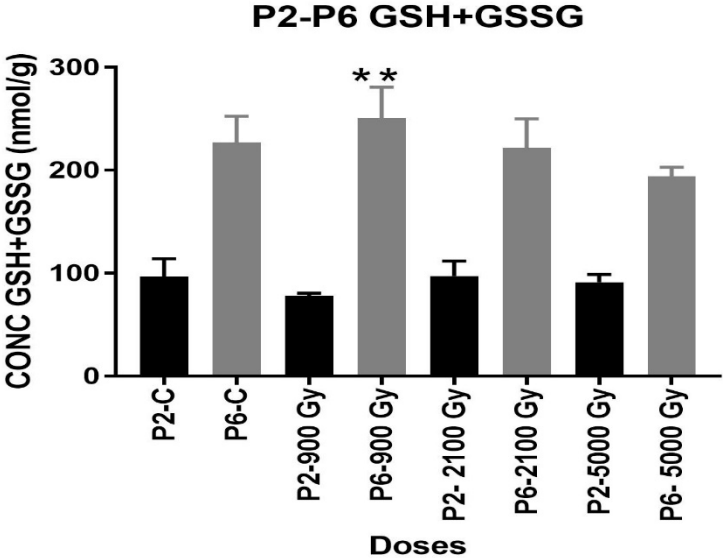


Table S12

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P2-C vs. P6-C	-11,33	No	ns	0,1986
P2-900 Gy vs. P6-900 Gy	-19	Yes	**	0,004
P2- 2100 Gy vs. P6-2100 Gy	-9,667	No	ns	0,3763
P2-5000 Gy vs. P6- 5000 Gy	-8	No	ns	0,6634

Fig. S9

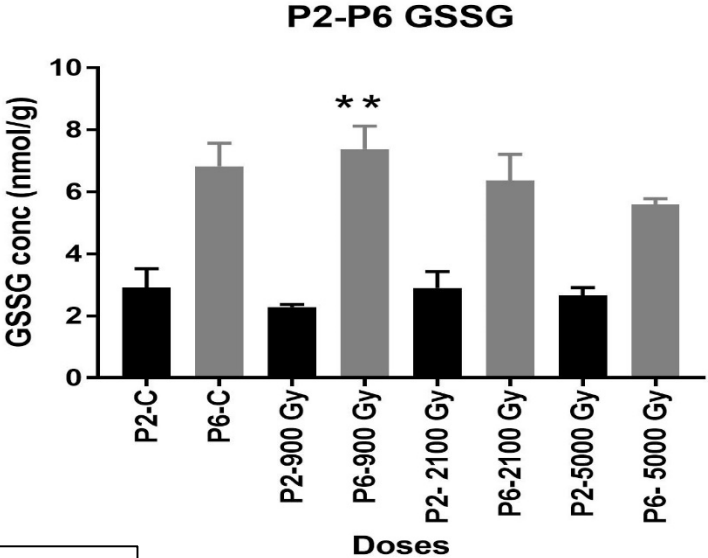


Table S13

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P2-C vs. P6-C	-12,33	No	ns	0,1307
P2-900 Gy vs. P6-900 Gy	-18,67	Yes	**	0,0049
P2- 2100 Gy vs. P6-2100 Gy	-9	No	ns	0,4761
P2-5000 Gy vs. P6- 5000 Gy	-8	No	ns	0,6634

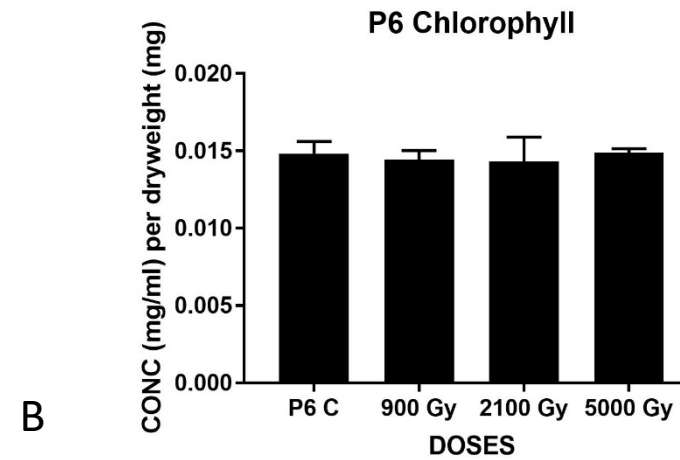
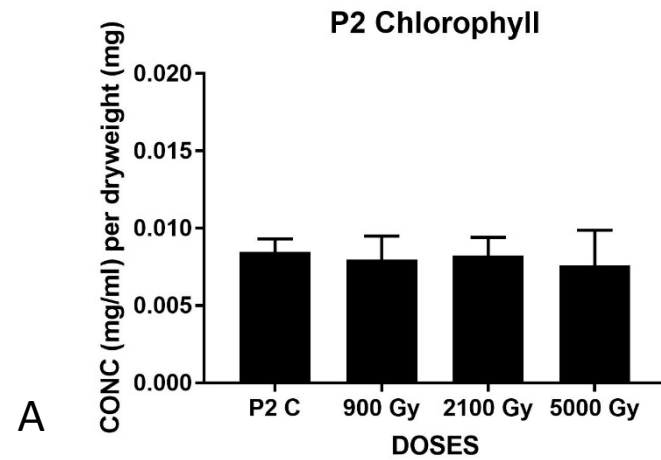
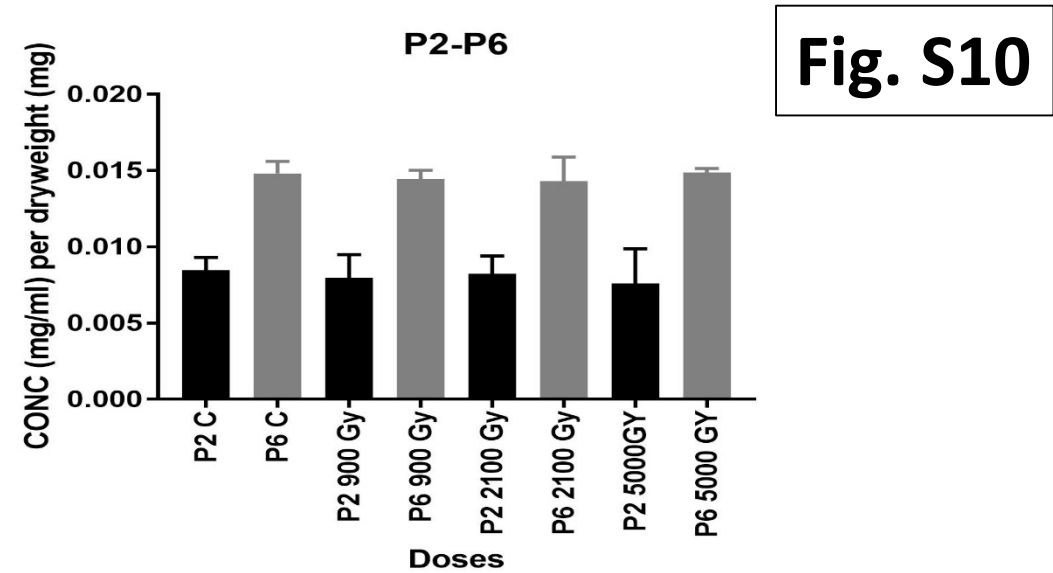


Fig. 9

P6 CHLOROPHYLL				
Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P6 C vs. 900 Gy	3	No	ns	0,9245
P6 C vs. 2100 Gy	2,333	No	ns	>0,9999
P6 C vs. 5000 Gy	0,6667	No	ns	>0,9999
P2 CHLOROPHYLL				
P2 C vs. 900 Gy	1,667	No	ns	>0,9999
P2 C vs. 2100 Gy	1	No	ns	>0,9999
P2 C vs. 5000 Gy	2	No	ns	>0,9999

Table S14

CHLOROPHYLL



Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value	
P2 C vs. P6 C	-12,33	No	ns	0,1307	
P2 900 Gy vs. P6 900 Gy	-11	No	ns	0,227	
P2 2100 Gy vs. P6 2100 Gy	-11	No	ns	0,227	
P2 5000GY vs. P6 5000 GY	-13,67	No	ns	0,0717	

Table S15

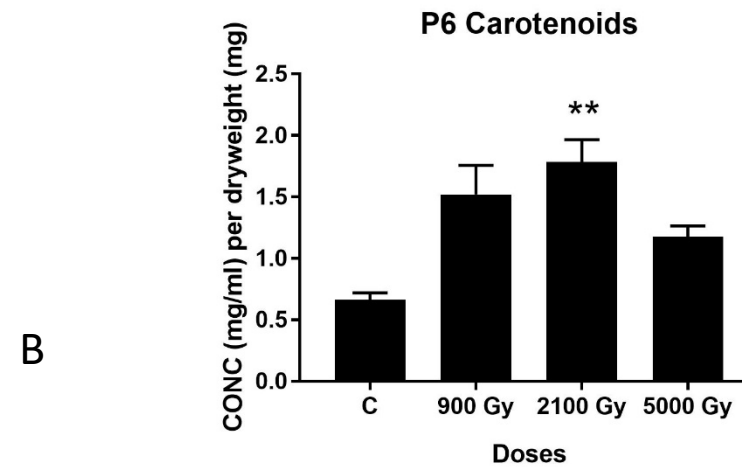
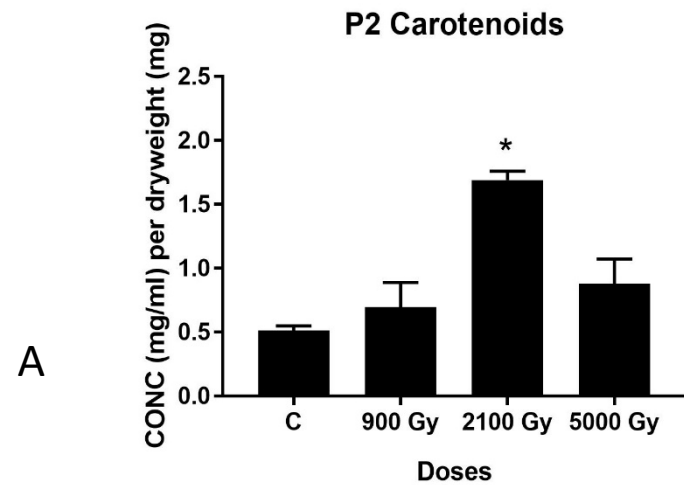


Fig. 10

Table S16

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Adjusted P Value
C vs. 900 Gy	-2,333	No	>0,9999
C vs. 2100 Gy	-8,333	Yes	0,0139
C vs. 5000 Gy	-4,667	No	0,3388

Table S17

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Adjusted P Value
C vs. 900 Gy	-6,333	No	0,0944
C vs. 2100 Gy	-8,667	Yes	0,0097
C vs. 5000 Gy	-3	No	0,9245

CAROTENOIDS

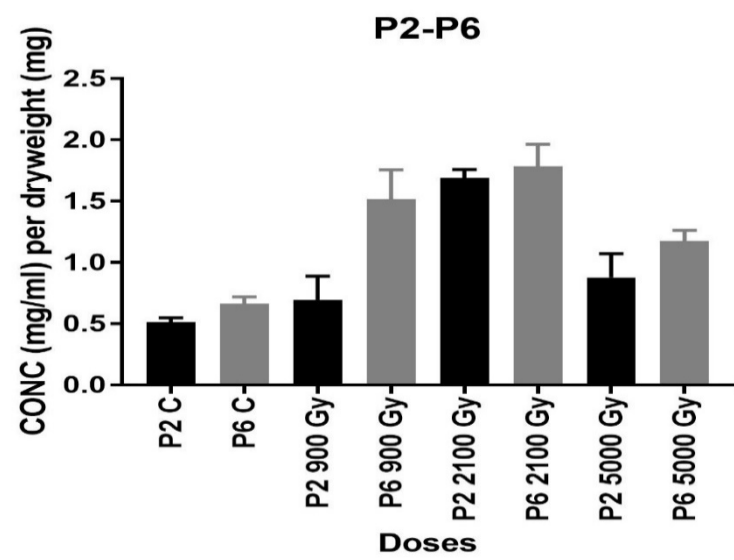


Fig. S11

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P2 C vs. P6 C	-4	No	ns	>0,9999
P2 900 Gy vs. P6 900 Gy	-11,33	No	ns	0,1986
P2 2100 Gy vs. P6 2100 Gy	-1,333	No	ns	>0,9999
P2 5000 Gy vs. P6 5000 Gy	-4	No	ns	>0,9999

Table S18

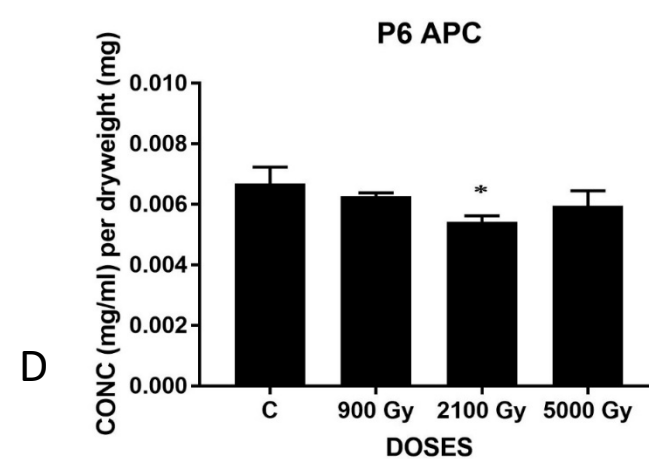
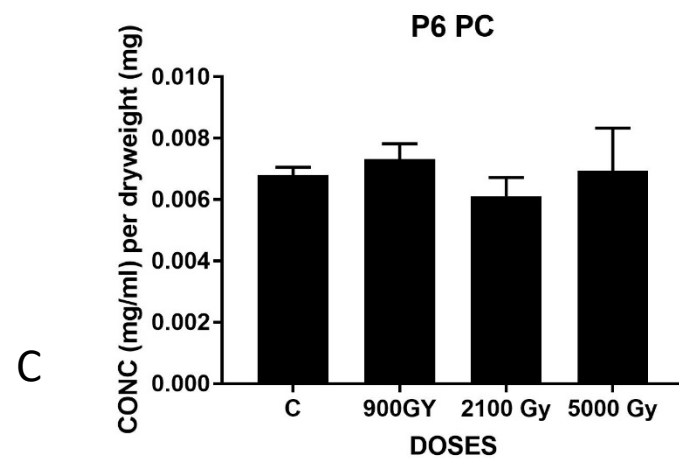
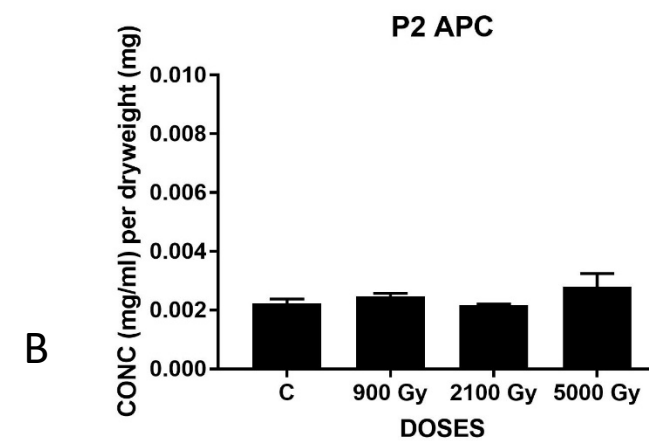
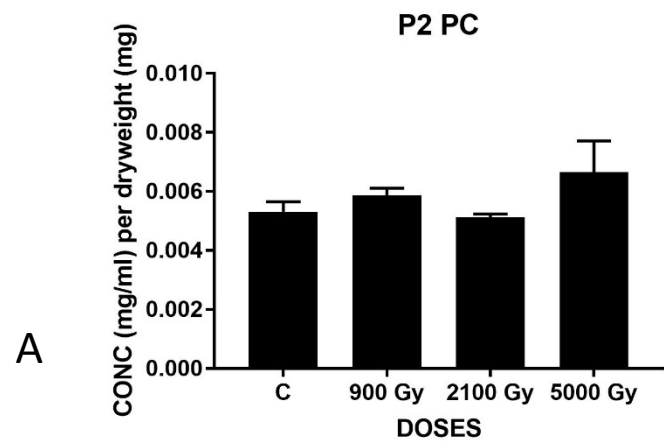


Fig. 11

Table S19

P6 PC			
Dunn's multiple comparisons test	Mean rank diff,	Significant?	Adjusted P Value
C vs. 900Gy	-2,667	No	>0,9999
C vs. 2100 Gy	3,667	No	0,6388
C vs. 5000 Gy	-1,667	No	>0,9999
P6 APC			
C vs. 900 Gy	1,667	No	>0,9999
C vs. 2100 Gy	7,333	Yes	0,0382
C vs. 5000 Gy	3,667	No	0,6388
P2 PC			
C vs. 900 Gy	-5	No	0,2683
C vs. 2100 Gy	1	No	>0,9999
C vs. 5000 Gy	-6	No	0,1246
P2 APC			
C vs. 900 Gy	-5	No	0,2683
C vs. 2100 Gy	1	No	>0,9999
C vs. 5000 Gy	-6	No	0,1246

Fig. S12

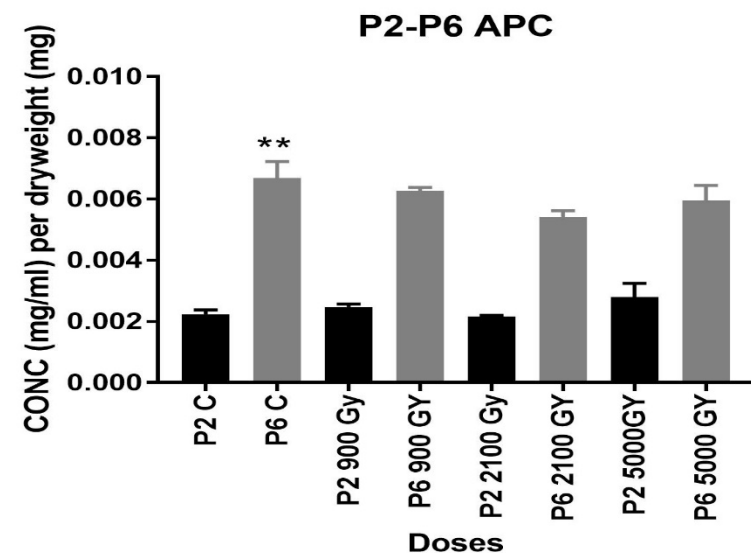


Fig. S13

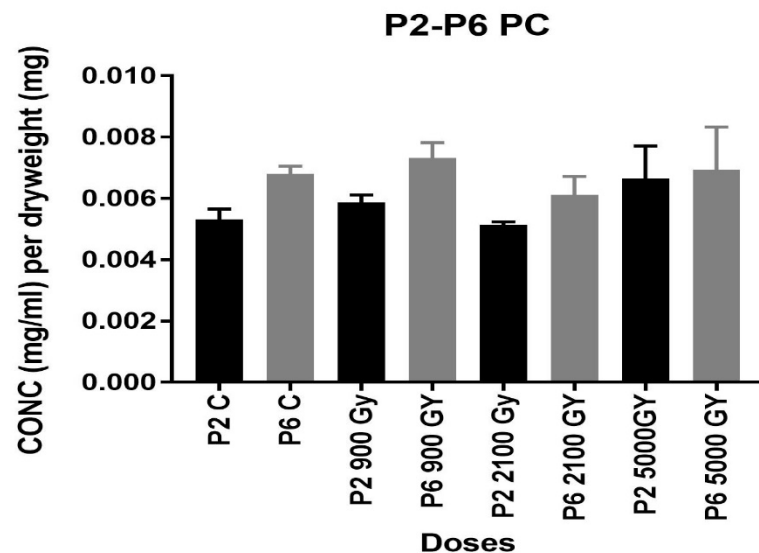


Table S20

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P2 C vs. P6 C	-17,67	Yes	**	0,0089
P2 900 Gy vs. P6 900 GY	-11	No	ns	0,227
P2 2100 Gy vs. P6 2100 GY	-11,33	No	ns	0,1986
P2 5000GY vs. P6 5000 GY	-8	No	ns	0,6634

Table S21

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value
P2 C vs. P6 C	-11,67	No	ns	0,1732
P2 900 Gy vs. P6 900 GY	-9,333	No	ns	0,4239
P2 2100 Gy vs. P6 2100 GY	-7,667	No	ns	0,7368
P2 5000GY vs. P6 5000 GY	-1,333	No	ns	>0,9999

Trehalose

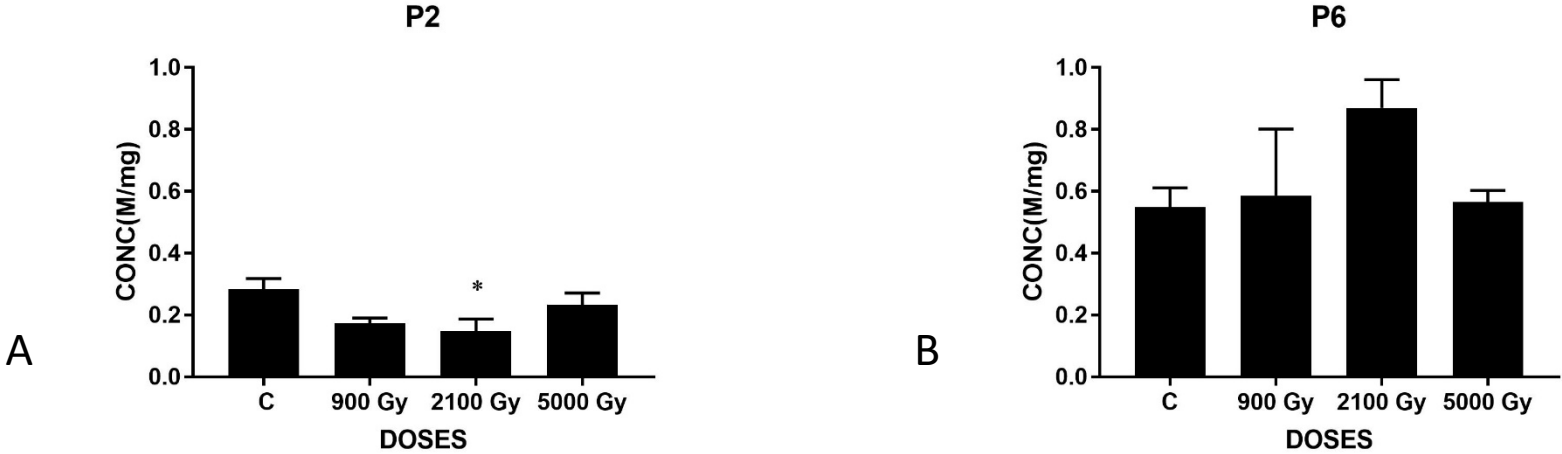


Fig. 12

P6 TREHALOSE			
Dunn's multiple comparisons test	Mean rank diff,	Significant?	Adjusted P Value
C vs. 900 Gy	0	No	>0,9999
C vs. 2100 Gy	-5,667	No	0,1627
C vs. 5000 Gy	-0,3333	No	>0,9999
P2 TREHALOSE			
C vs. 900 Gy	6,667	No	0,0706
C vs. 2100 Gy	7,667	Yes	0,0276
C vs. 5000 Gy	2,333	No	>0,9999

Table S22

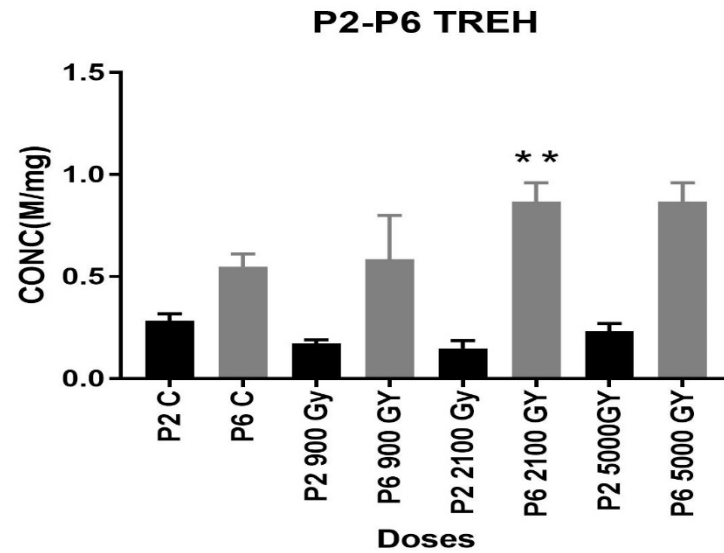
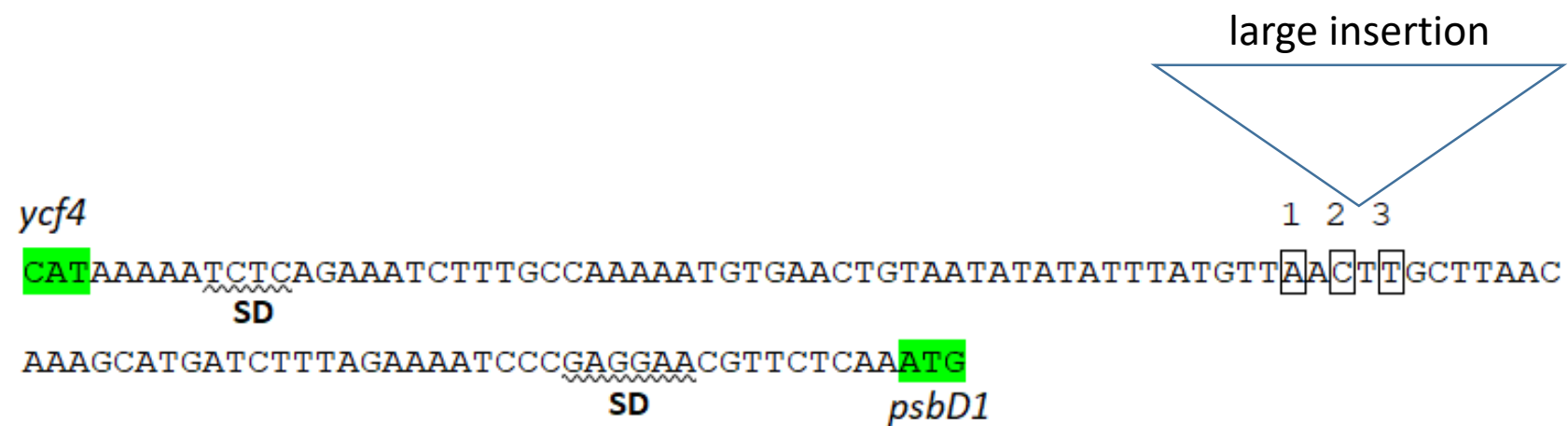


Fig. S14

Dunn's multiple comparisons test	Mean rank diff,	Significant?	Summary	Adjusted P Value	
P2 C vs. P6 C	-5	No	ns	>0,9999	
P2 900 Gy vs. P6 900 GY	-12	No	ns	0,1502	
P2 2100 Gy vs. P6 2100 GY	-18,17	Yes	**	0,0066	
P2 5000GY vs. P6 5000 GY	-12,83	No	ns	0,1045	

Table S23

Fig. S15



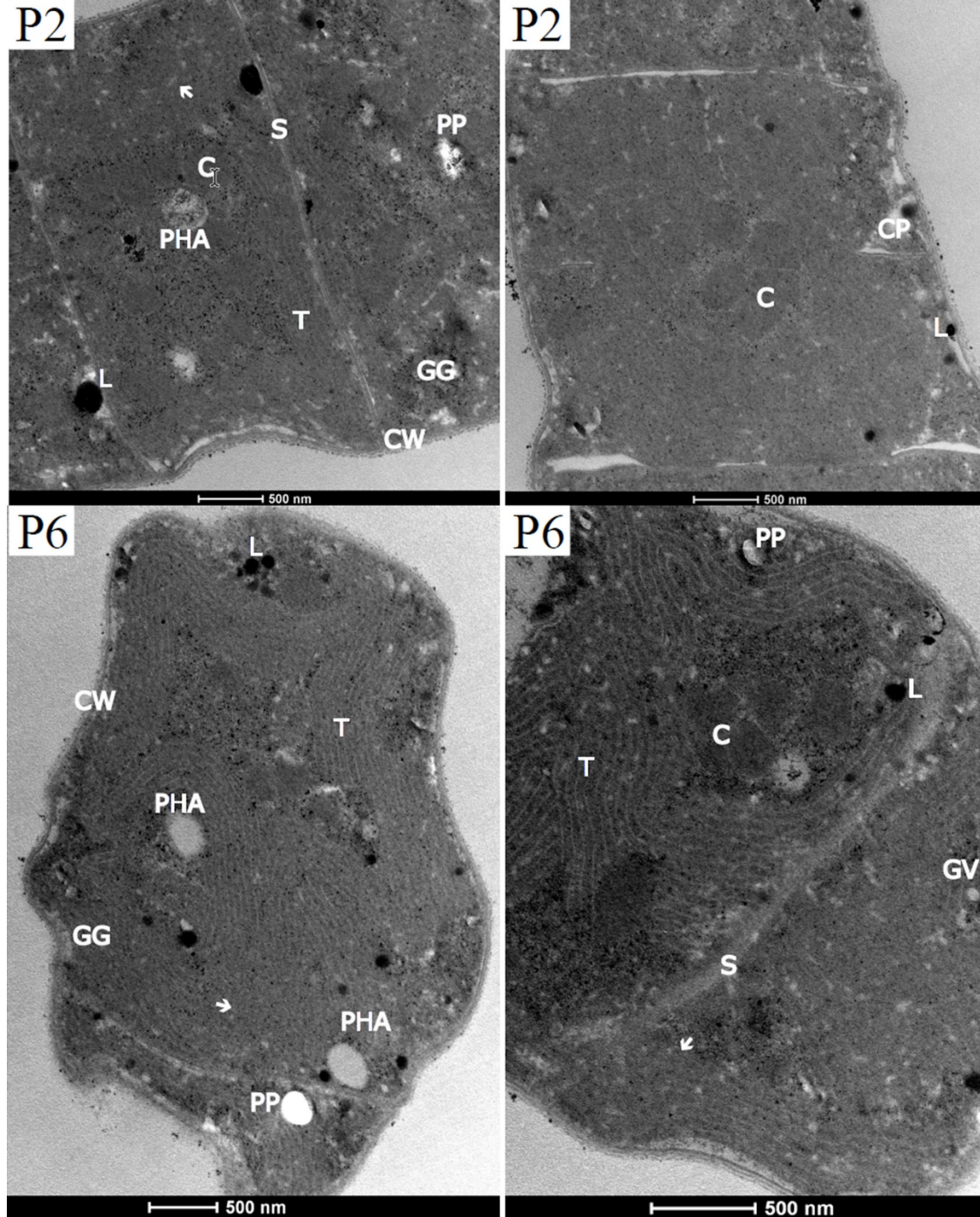
1 = +GTGCGAG

2 = +G

3 = +TAGGAGTGAAATAAGGCTGCAATGCCTGAAATAACCTCCTA

Fig. S16

(2100 Gy)

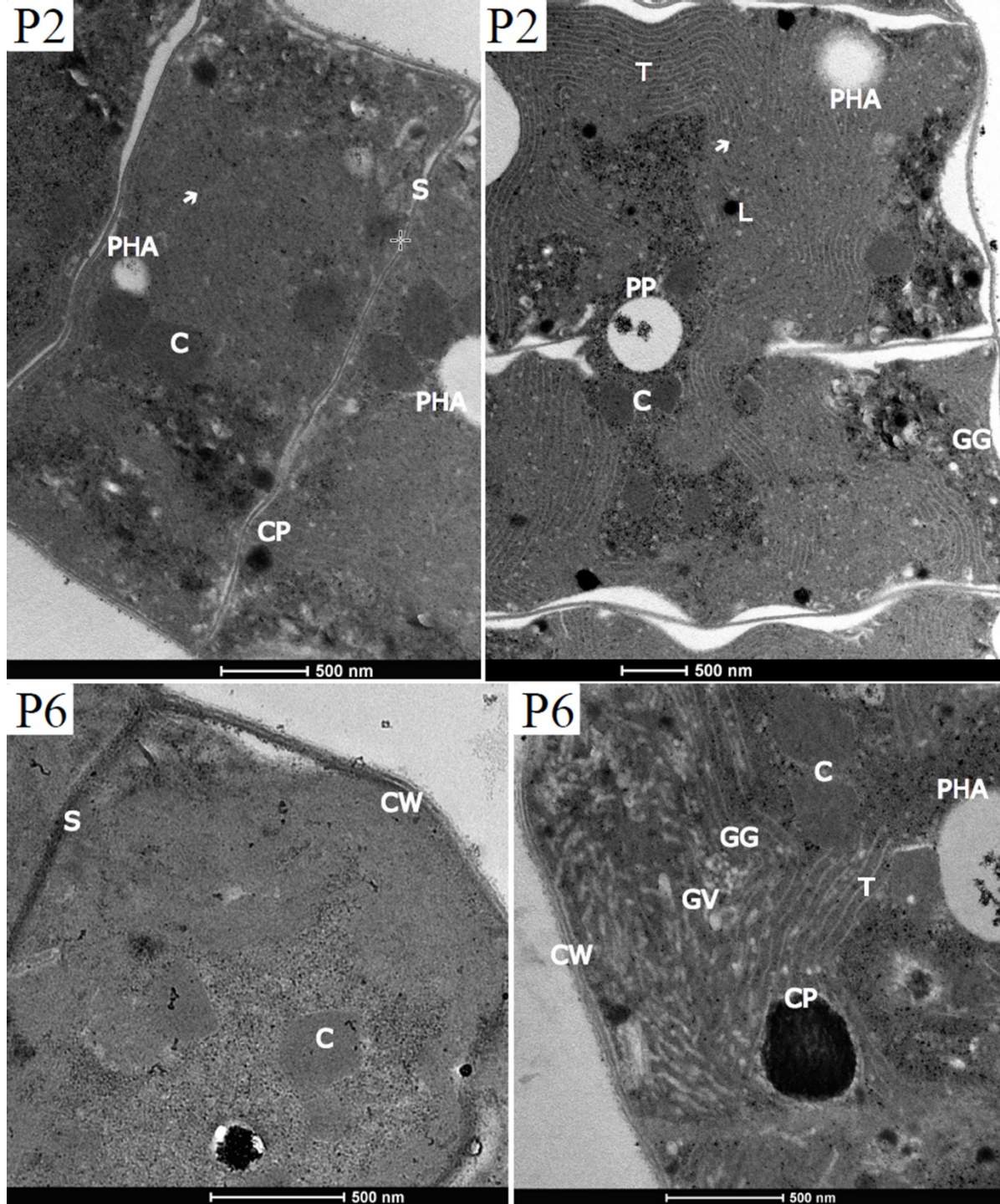


C	carboxysome
CP	cyanophycin
CW	cell wall
GG	glycogen granule
GV	gasvesicle
L	lipid inclusion
PHA	storage polymers
	- polyhydroxyalkanoates
PP	polyphosphate
S	septum
T	thylakoid

white arrows indicate irradiation
damage (see text)

Fig. S17

(5000 Gy)



C	carboxysome
CP	cyanophycin
CW	cell wall
GG	glycogen granule
GV	gasvesicle
L	lipid inclusion
PHA	storage polymers - polyhydroxyalkanoates
PP	polyphosphate
S	septum
T	thylakoid

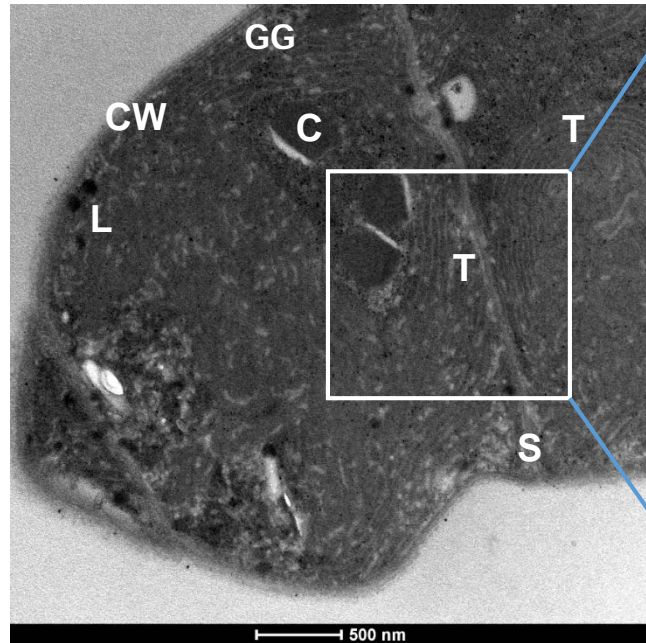
white arrows indicate irradiation
damage (see text)

Fig. S18

(5000 Gy)

C carboxysome
CW cell wall
GG glycogen granule
L lipid inclusion
S septum
T thylakoid

P6



white arrows indicate irradiation damage (see text)

