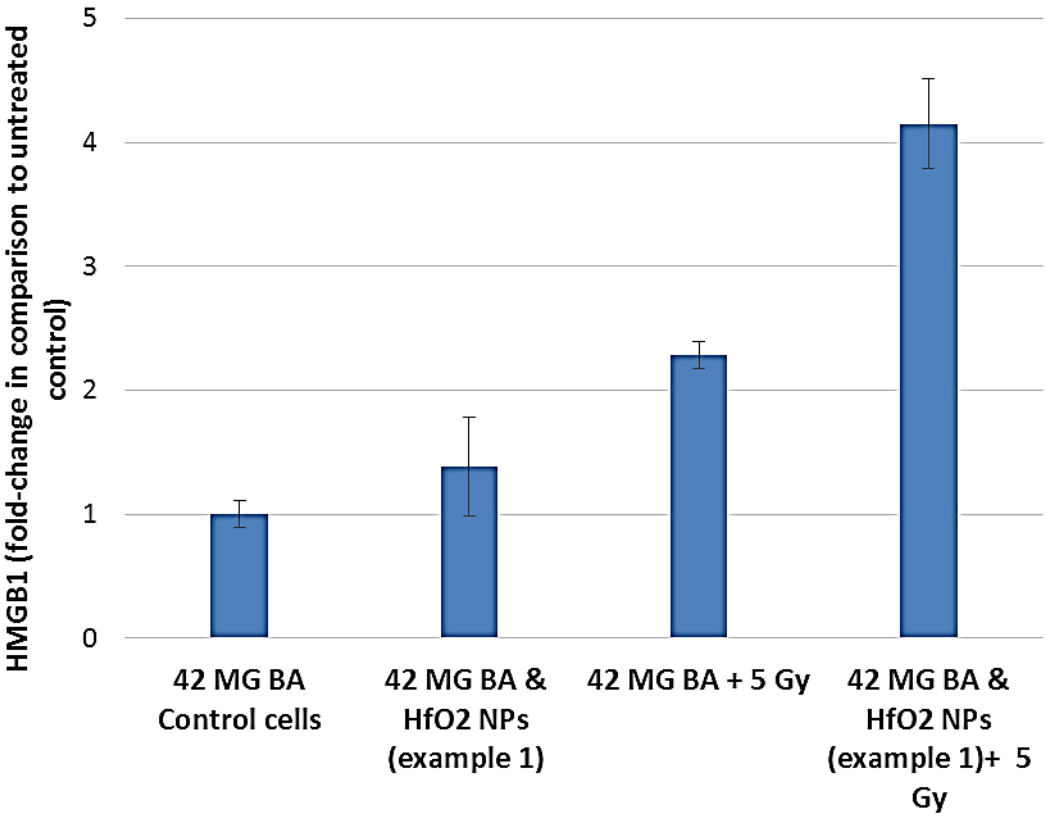

HMGB1 (fold-change in comparison to untreated control)
5
4
3
2
1
0
42 MG BA Control cells
42 MG BA & HfO2 NPs (example 1)
42 MG BA + 5 Gy
42 MG BA & HfO2 NPs (example 1)+ 5 Gy

**FIGURE 1**

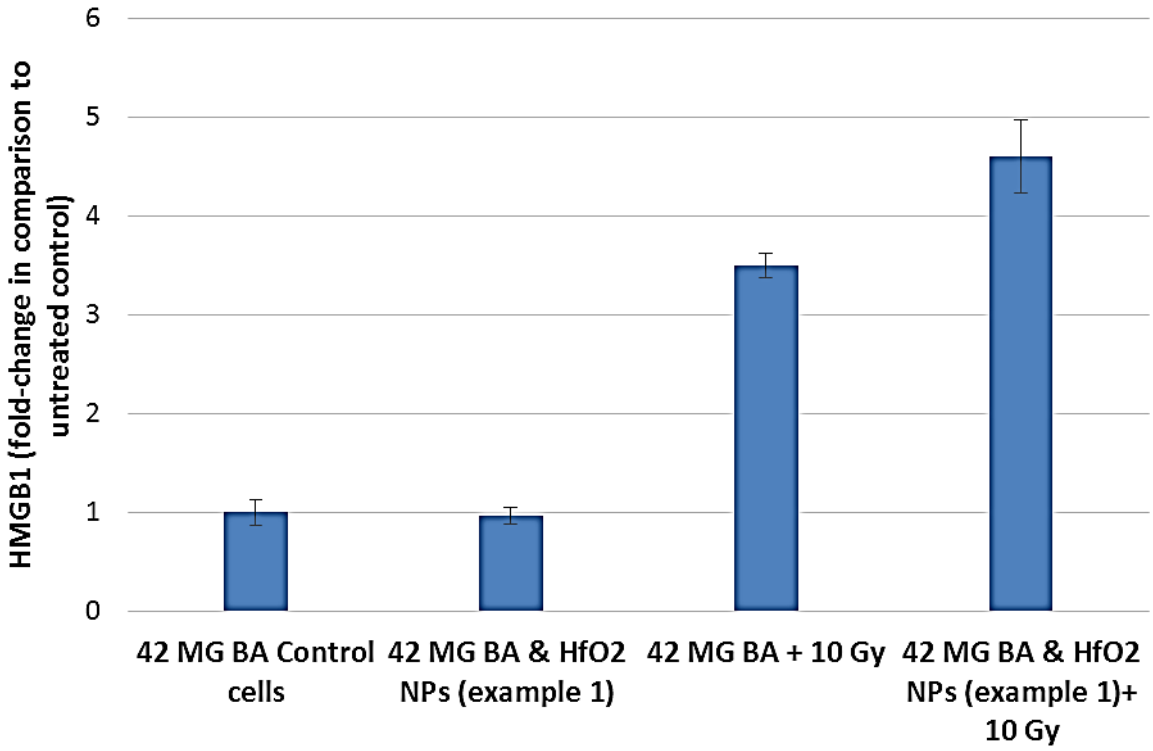

HMGB1 (fold-change in comparison to untreated control)
6
5
4
3
2
1
0
42 MG BA Control cells
42 MG BA & HfO2 NPs (example 1)
42 MG BA + 10 Gy
42 MG BA & HfO2 NPs (example 1)+ 10 Gy

**FIGURE 2**

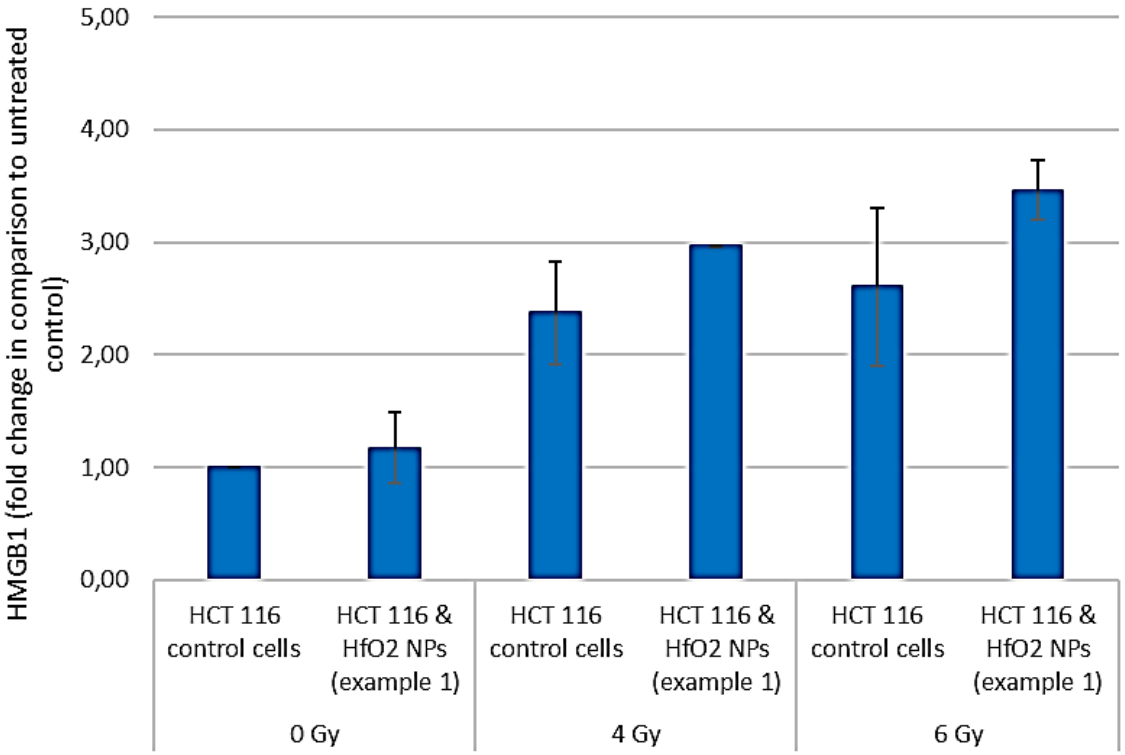

HMGB1 (fold change in comparison to untreated control)
5,00
4,00
3,00
2,00
1,00
0,00
HCT 116 control cells
HCT 116 & HfO2 NPs (example 1)
HCT 116 control cells
HCT 116 & HfO2 NPs (example 1)
HCT 116 control cells
HCT 116 & HfO2 NPs (example 1)
0 Gy
4 Gy
6 Gy

**FIGURE 3 A**

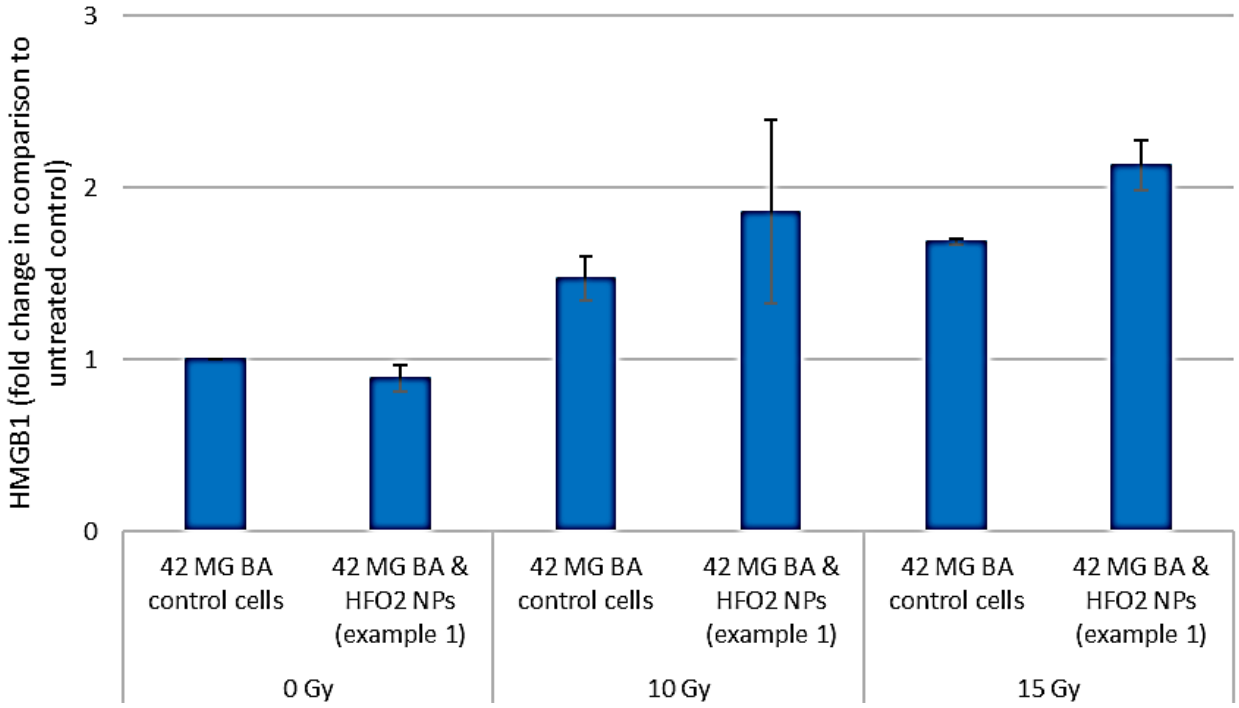

HMGB1 (fold change in comparison to untreated control)
3
2
1
0
42 MG BA control cells
42 MG BA & HFO2 NPs (example 1)
42 MG BA control cells
42 MG BA & HFO2 NPs (example 1)
42 MG BA control cells
42 MG BA & HFO2 NPs (example 1)
0 Gy
10 Gy
15 Gy

**FIGURE 3 B**

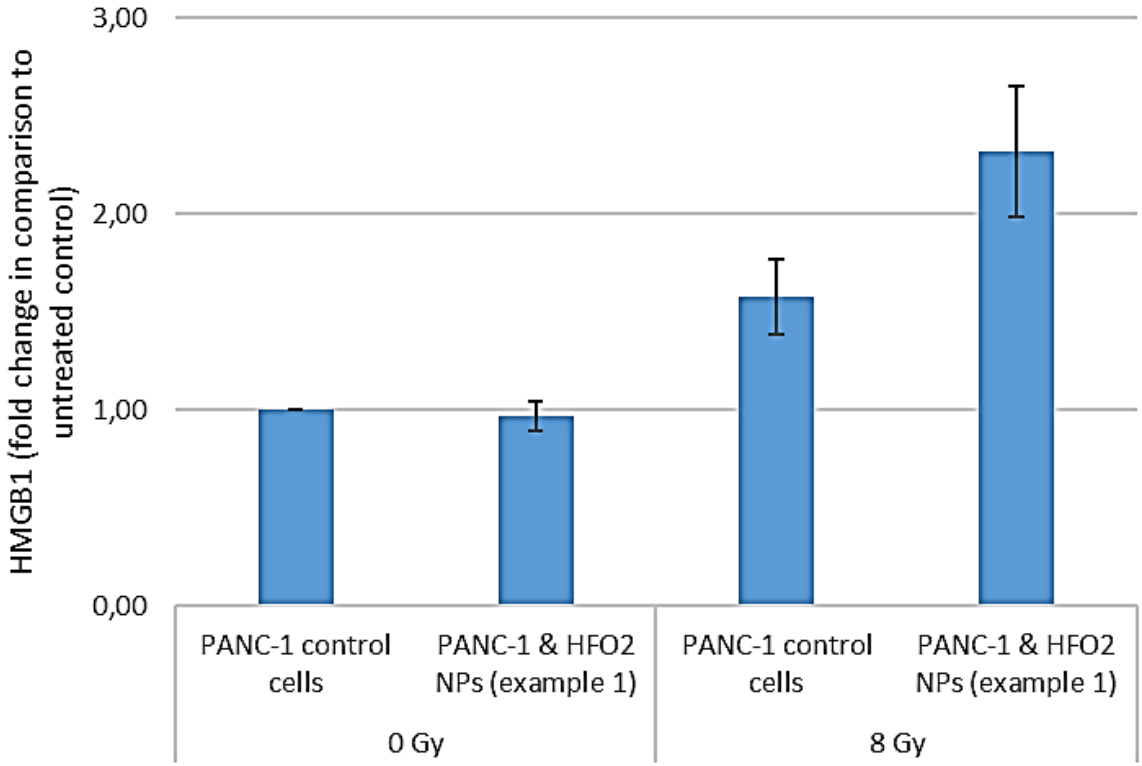

HMGB1 (fold change in comparison to untreated control)
3,00
2,00
1,00
0,00
PANC-1 control cells
PANC-1 & HFO2 NPs (example 1)
PANC-1 control cells
PANC-1 & HFO2 NPs (example 1)
0 Gy
8 Gy

**FIGURE 3C**

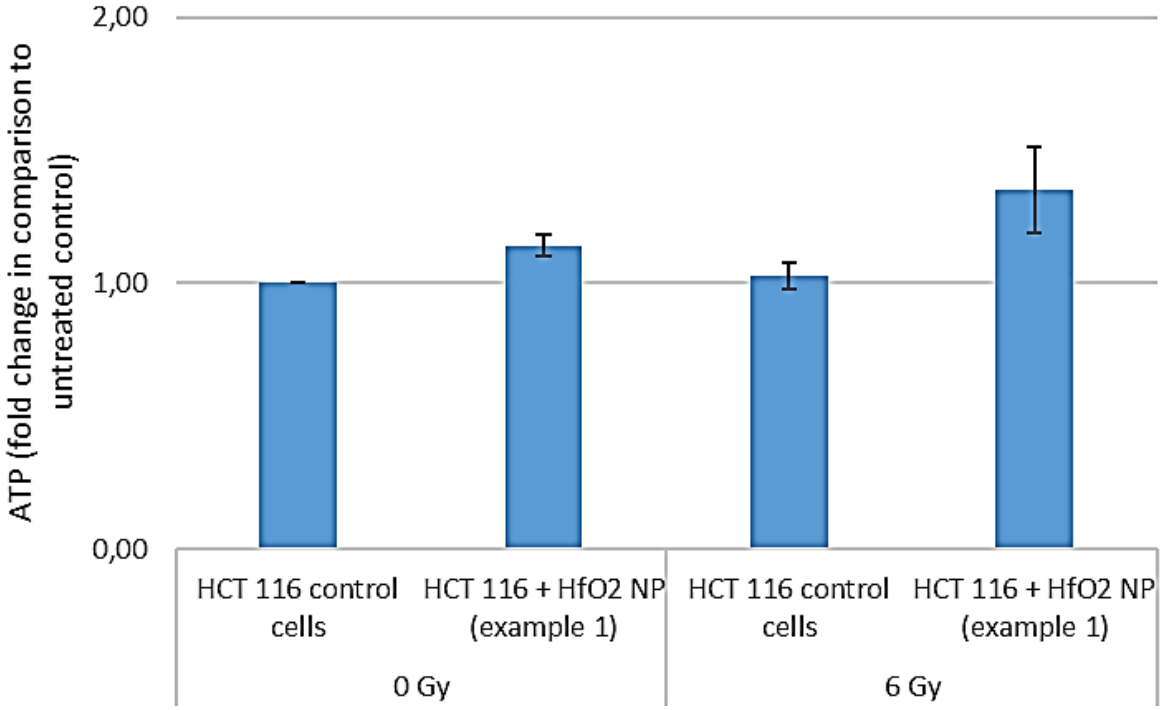

2,00
1,00
0,00
ATP (fold change in comparison to untreated control)
HCT 116 control cells
HCT 116 + HfO2 NP (example 1)
HCT 116 control cells
HCT 116 + HfO2 NP (example 1)
0 Gy
6 Gy

**FIGURE 4**

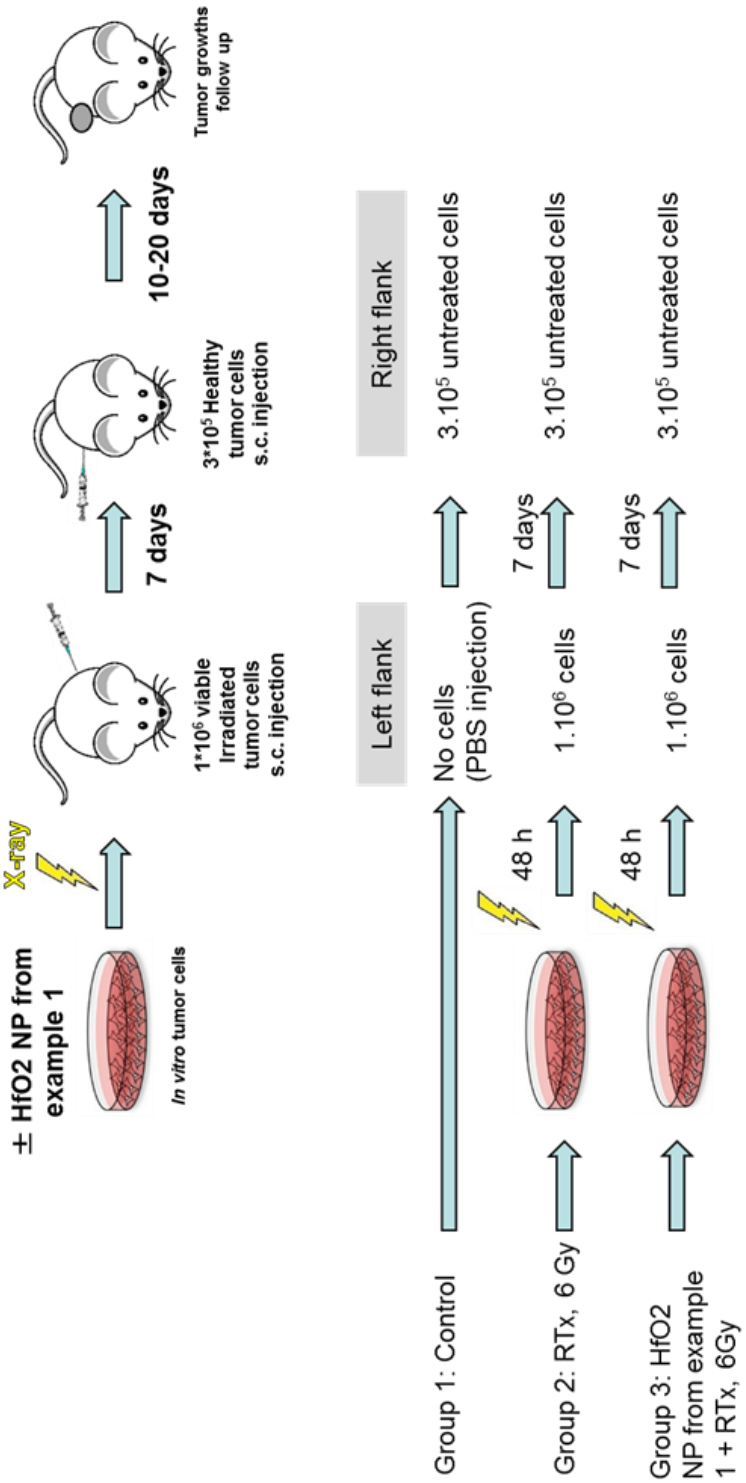

± HfO2 NP from example 1
X-ray
In vitro tumor cells
1*10^6 viable Irradiated tumor cells s.c. injection
7 days
3*10^5 Healthy tumor cells s.c. injection
10-20 days
Tumor growths follow up
Left flank
Right flank
Group 1: Control
No cells (PBS injection)
3.10^5 untreated cells
Group 2: RTx, 6 Gy
48 h
1.10^6 cells
7 days
3.10^5 untreated cells
Group 3: HfO2 NP from example 1 + RTx, 6Gy
48 h
1.10^6 cells
7 days
3.10^5 untreated cells

**FIGURE 5**

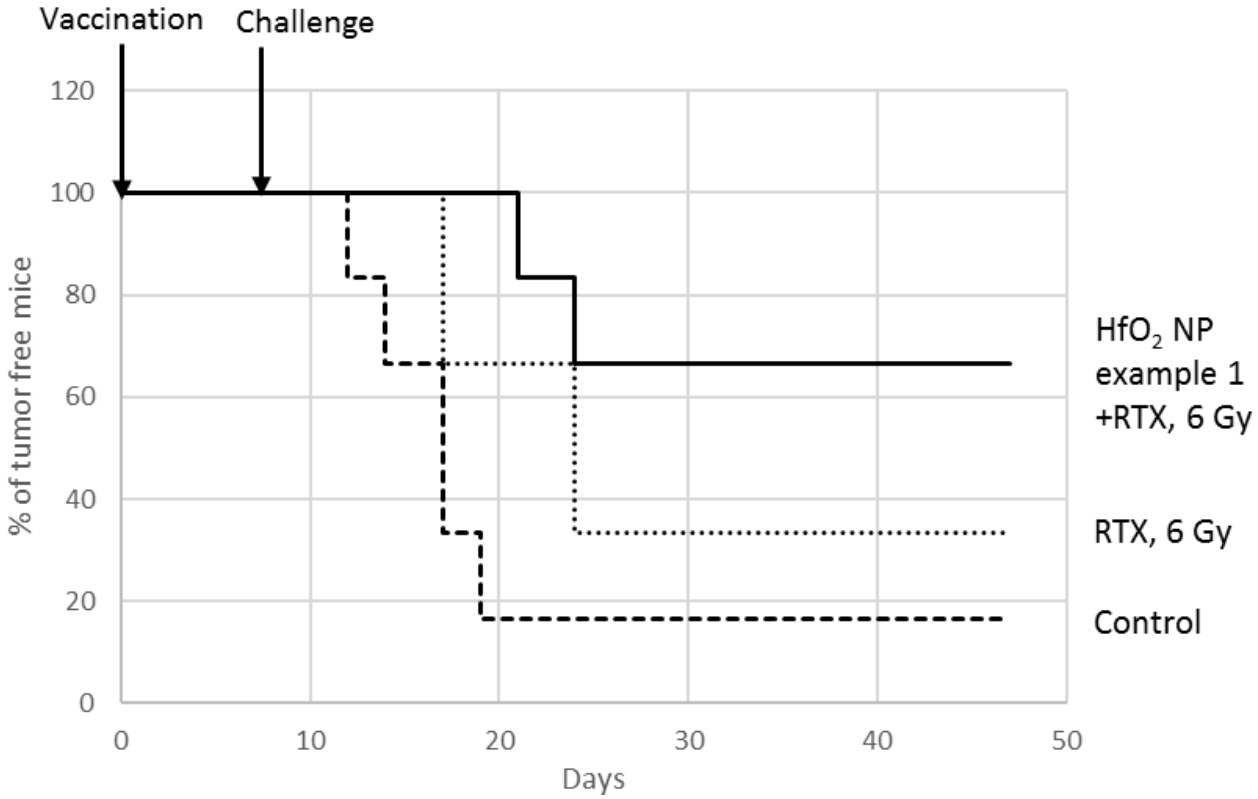

Vaccination
Challenge
120
100
80
60
40
20
0
% of tumor free mice
0
10
20
30
40
50
Days
HfO2 NP example 1 +RTX, 6 Gy
RTX, 6 Gy
Control

**FIGURE 6**