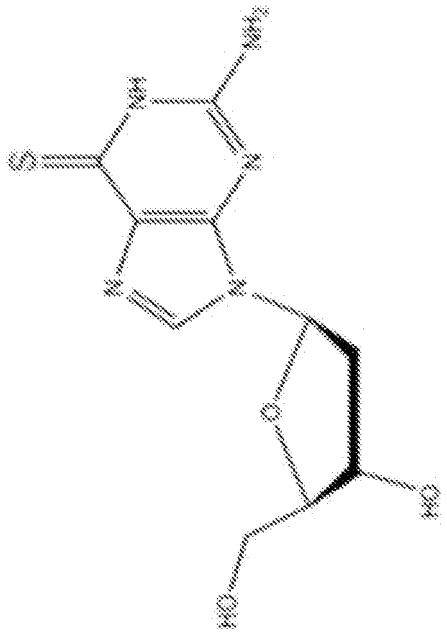
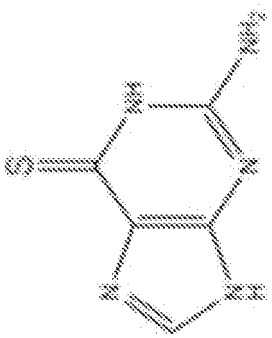


6-thio-2'-deoxyguanosine



6-thioguanine

FIG. 1A

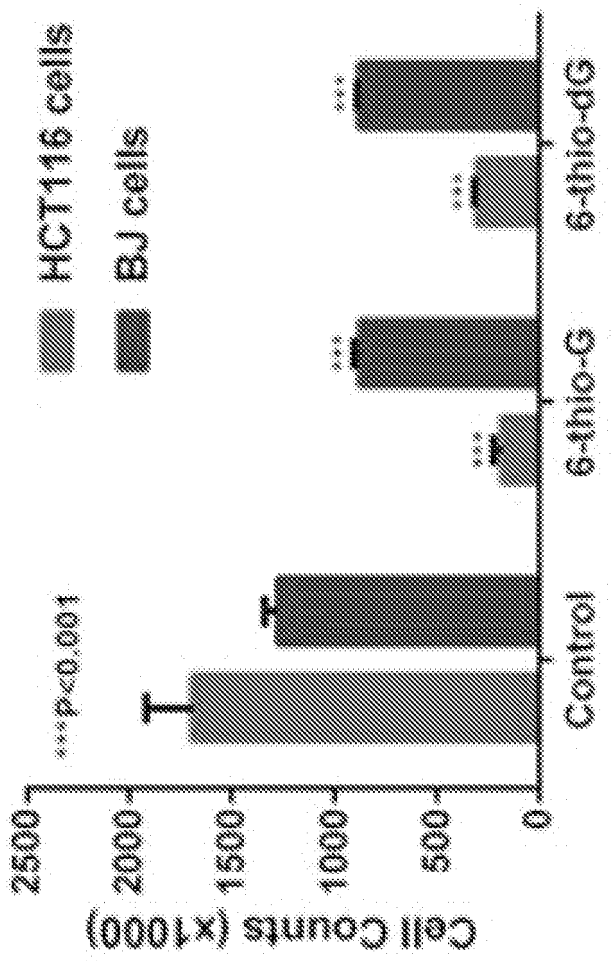

Cell Counts
HCT116 cells
BJ cells
***P<0.001
Cell Counts (x1000)
2500
2000
1500
1000
500
0
***
***
***
***
Control
6-thio-G
6-thio-dG

FIG. 1B

Week / Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Control	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A	Im	Im	Im	Im	Im	Im	Im	Im	Im	Im	Im					
B	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG				
C	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG		
D	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG
E	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	--	--		
F	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	--	--	--	--
G	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	combo	combo		
H	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	combo	combo	combo	combo
I	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	Im	Im		
F	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	6-dG	Im	Im	**Im**	**Im**

FIG. 2

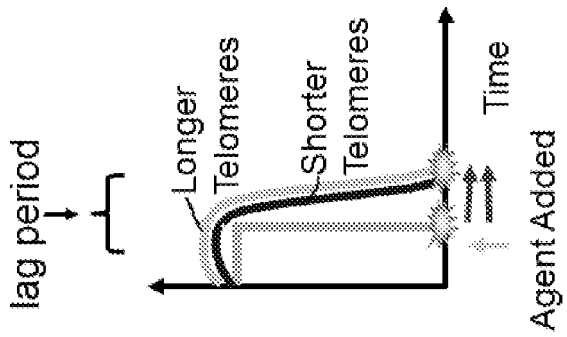

lag period
Longer Telomeres
Shorter Telomeres
Time
Agent Added

FIG. 3B

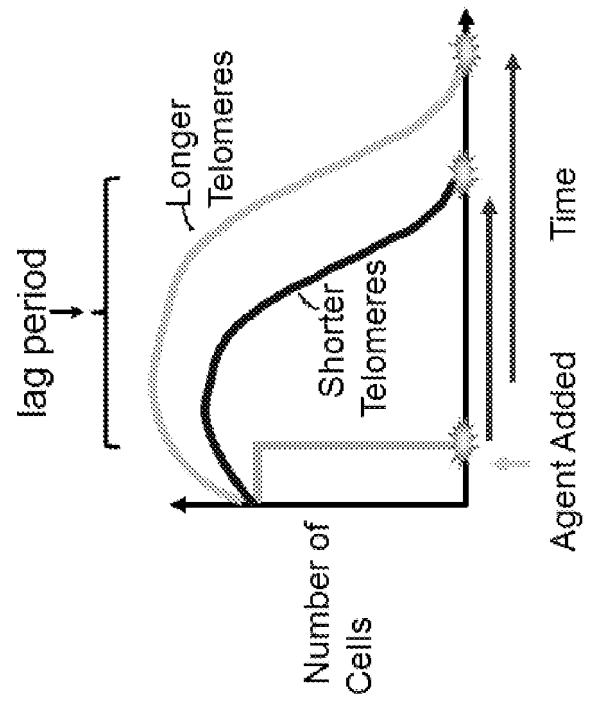

lag period
Longer Telomeres
Shorter Telomeres
Number of Cells
Agent Added
Time

FIG. 3A

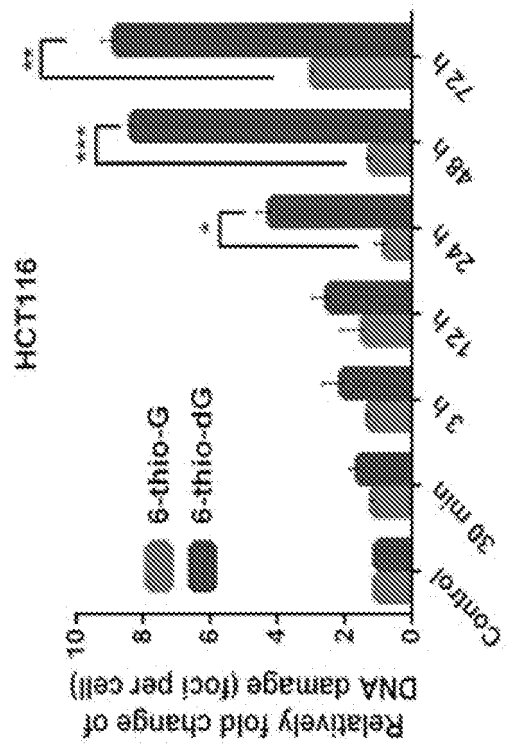

HCT116
Relatively fold change of DNA damage (foci per cell)
6-thio-G
6-thio-dG
Control
30 min
3 h
12 h
24 h
48 h
72 h
Time points

FIG. 4

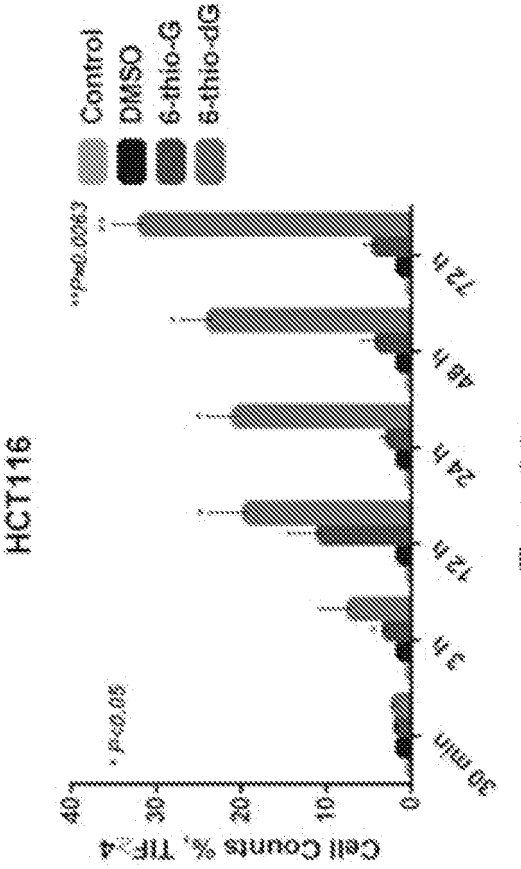

HCT116
Cell Counts % TF-4
Control
DMSO
6-thio-G
6-thio-dG
30 min
3 h
12 h
24 h
48 h
72 h
Time points

FIG. 5

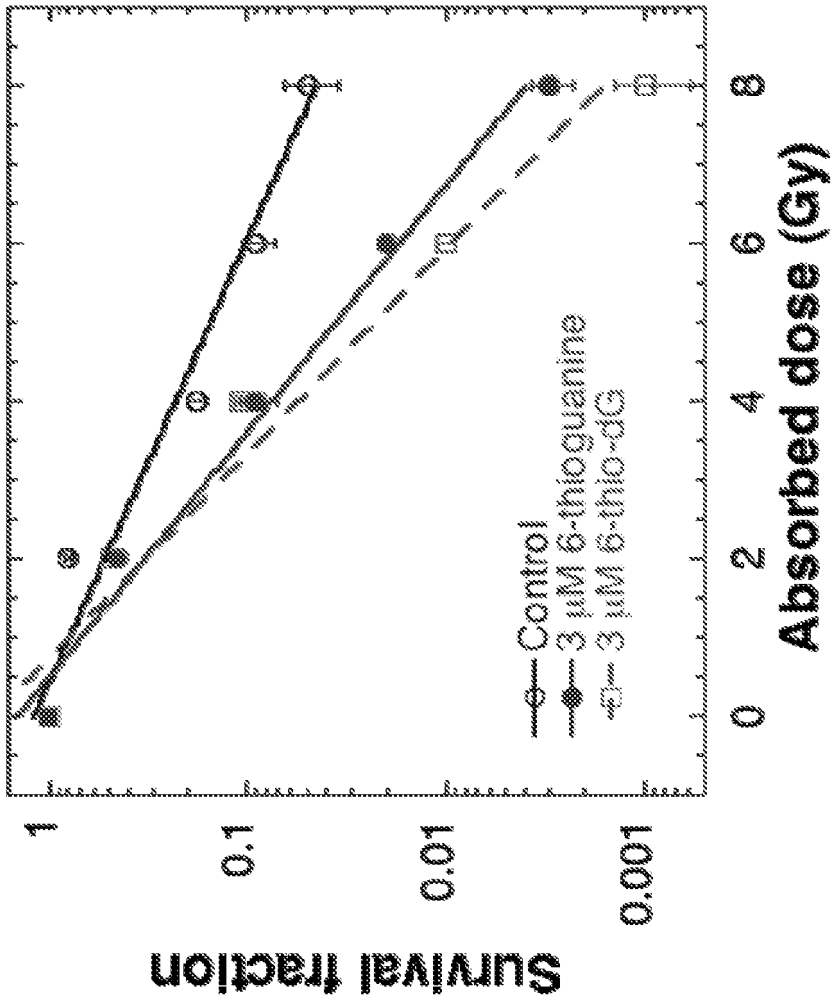

Survival fraction
1
0.1
0.01
0.001
0
2
4
6
8
Absorbed dose (Gy)
Control
3 μM 6-thioguanine
3 μM 6-thio-dG

FIG. 6A

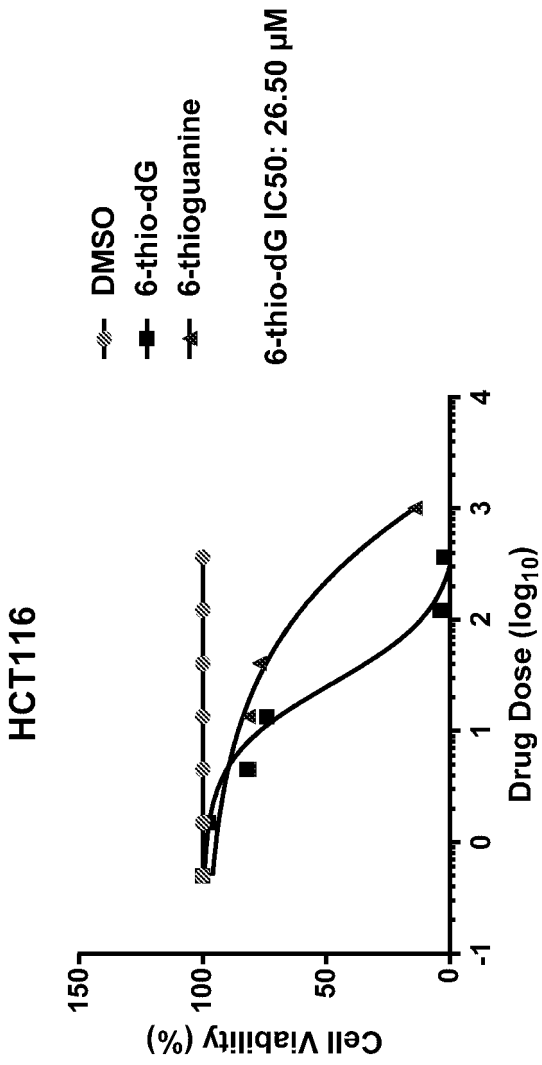

HCT116
DMSO
6-thio-dG
6-thioguanine
6-thio-dG IC50: 26.50 µM
Cell Viability (%)
150
100
50
0
-1
0
1
2
3
4
Drug Dose (log10)

FIG.6B

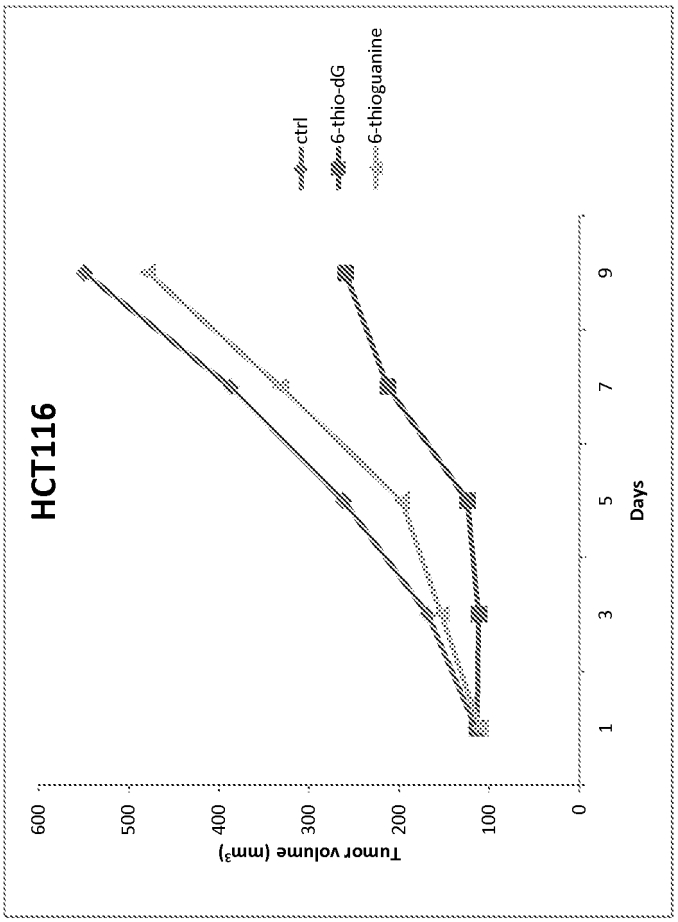

HCT116
Tumor volume (mm³)
600
500
400
300
200
100
0
1
3
5
7
9
Days
ctrl
6-thio-dG
6-thioguanine

FIG. 7A

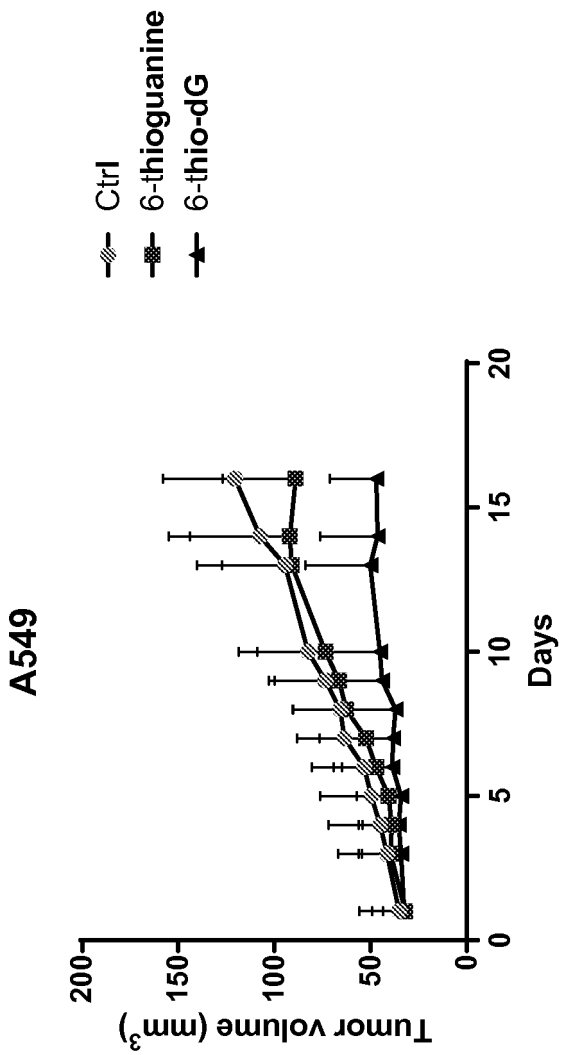

A549
Ctrl
6-thioguanine
6-thio-dG
Tumor volume (mm3)
200
150
100
50
0
0
5
10
15
20
Days

FIG. 7B

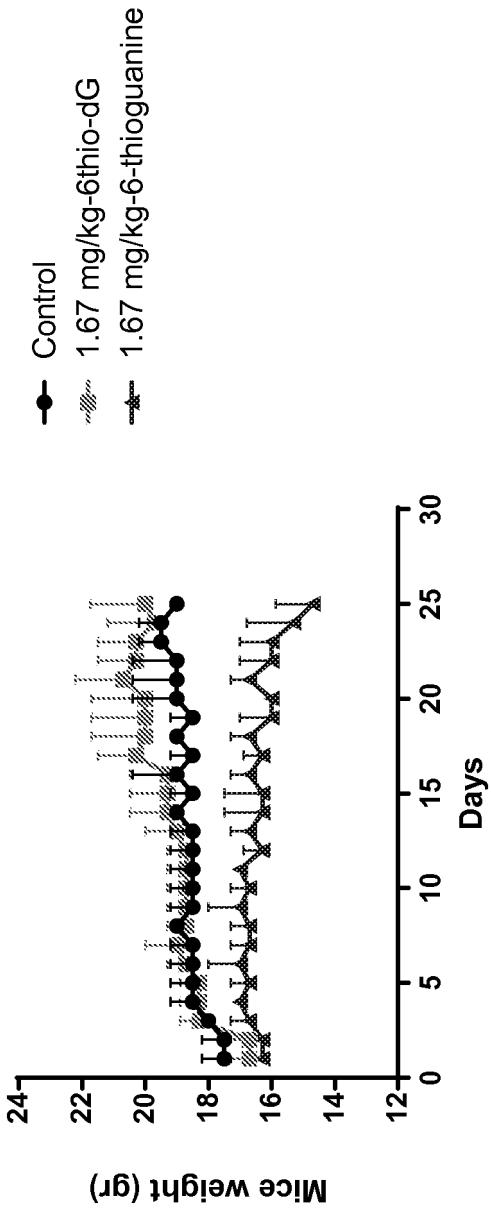

Control
1.67 mg/kg-6thio-dG
1.67 mg/kg-6-thioguanine
Mice weight (gr)
Days
24
22
20
18
16
14
12
0
5
10
15
20
25
30

FIG. 8A

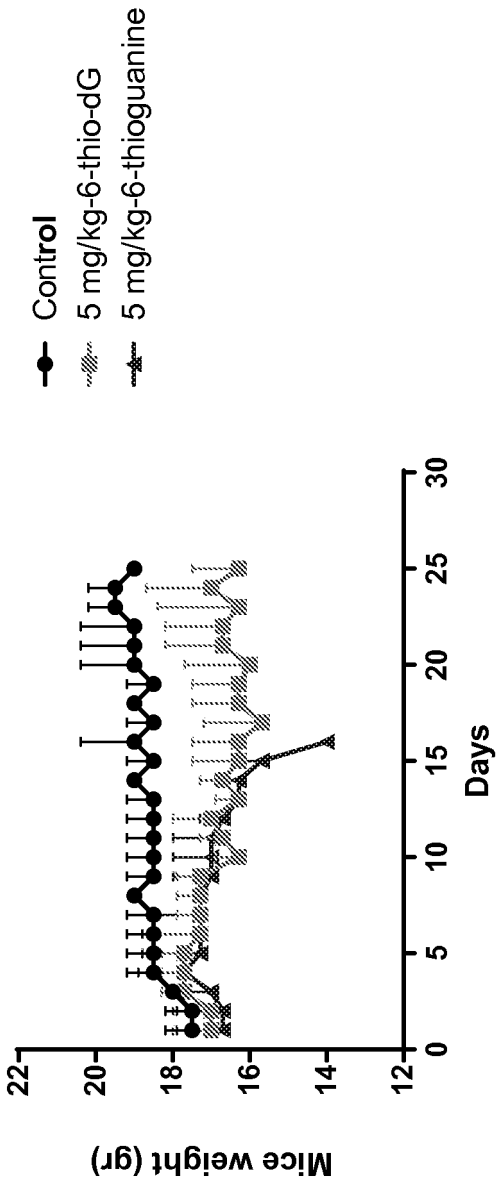

Control
5 mg/kg-6-thio-dG
5 mg/kg-6-thioguanine
Mice weight (gr)
Days
22
20
18
16
14
12
0
5
10
15
20
25
30

FIG. 8B