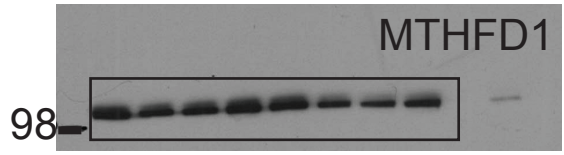
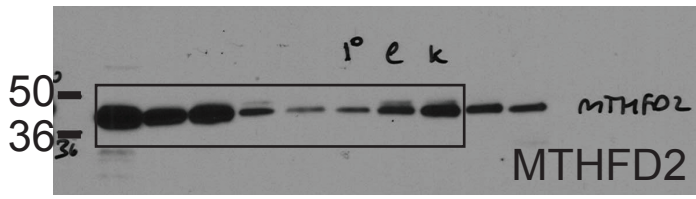
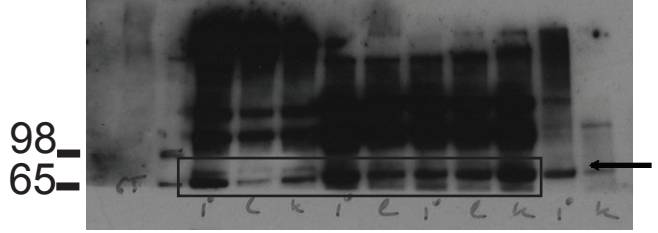
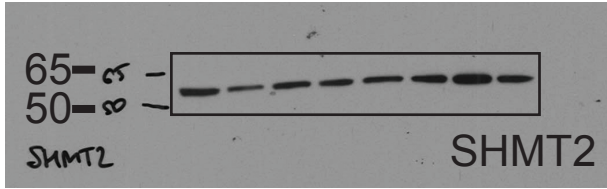
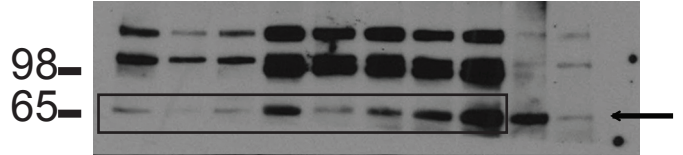


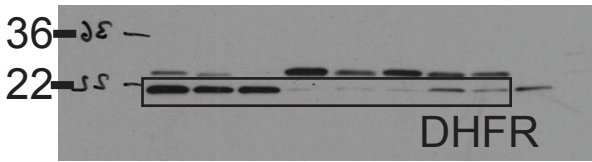
Figure 3a



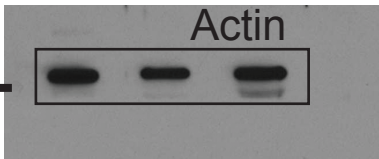
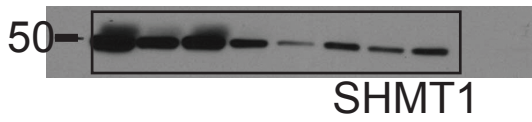
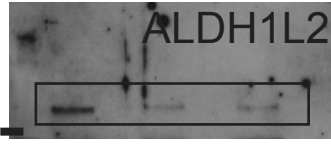
MTHFR (short exposure)



MTHFR (long exposure)



Extended Data Figure 6f



Extended Data Figure 6g

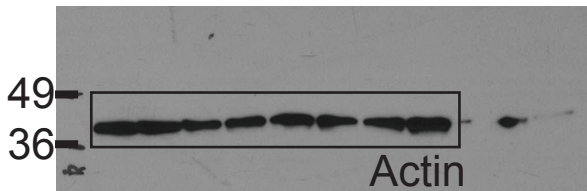
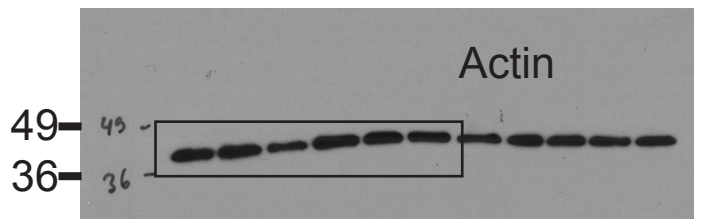
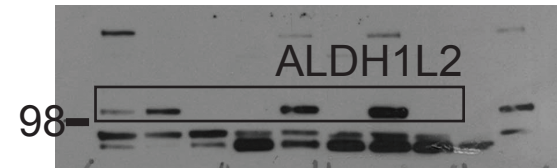
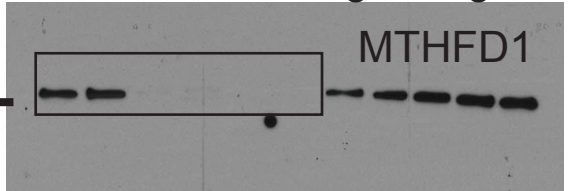
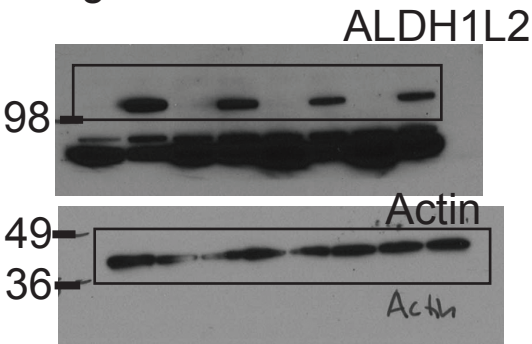


Figure 3h



Tumour Measurements

Figure 2a

M405 Experiment 1

Days	Control					NAC				
0	0.8	0.6	0.5	0.1	0.6	0.6	0.2	0.7	0.9	0.9
10	0.8	0.9	0.8	0.2	0.7	0.8	0.3	1	1.1	0.9
16	1	1.1	1	0.3	0.9	0.8	0.5	1.1	1.2	1
23	1.1	1.3	1.2	0.3	1.1	0.9	0.7	1.1	1.5	1.3
30	1.5	1.5	1.3	0.4	1.6	0.9	0.7	1.5	1.6	1.4
37	1.6	1.5	1.4	0.4	1.6	0.9	1	1.7	1.7	1.5
44	1.9	1.7	1.6	0.5	1.6	1.4	1.2	2.1		1.8
51	2.1	1.8	1.9	0.6	2	1.6	1.3	2.1		1.8

M405 Experiment 2

Days	Control			NAC			
0	0.6	1.1	0.6	0.8	0.9	1	0.7
4	0.6	1.3	0.8	0.8	0.9	1.1	0.7
7	0.6	1.4	0.9	0.8	1	1.2	0.8
11	0.6	1.4	0.9	0.9	1	1.4	0.8
14	0.9	1.5	1.1	1.1	1	1.6	0.8
18	1.1	1.6	1.1	1.1	1	1.6	0.8
21	1.1	1.7	1.1	1.1	1.1	1.6	0.8
24	1.1	1.7	1.3	1.3	1.2	1.7	0.9
28	1.3	1.9	1.5	1.4	1.6	1.9	0.9
32	1.5	2	1.5	1.5	1.6	2	0.9
35	1.7	2.1	1.5	1.7	1.6	2	1
37	1.7	2.1	1.6	1.7	1.6	2.2	1.1

M405 Experiment 3

Days	Control				NAC				
0	1.1	0.6	0.7	0.9	0.4	0.9	0.9	0.7	0.6
3	1.4	0.6	1	1.3	0.9	0.7	0.9	0.9	0.8
10	1.1	0.8	1.3	1.5	1.1	0.7	0.9	1	1
15	2.2	1	1.3	1.7	1.1	0.8	1.3	1.1	1.2
25	2.2	1.1	1.5	1.7	1.3	0.8	1.4	1.2	1.4
31	2.4	1.3	1.5	1.8	1.4	1	2	1.4	1.6

M481 Experiment 1

Days	Control			NAC			
0	0.5	0.4	0.4	0.4	0.4	0.5	0.4
7	0.8	0.7	0.9	1	1	0.7	0.9
11	1.3	1	1.1	1.2	1.5	0.9	1.2
14	1.4	1.1	1.3	1.4	1.5	1	1.5
17	1.4	1.2	1.3	1.8	1.7	1.3	1.7
21	1.7	1.6	1.9	2.2	1.9	1.8	2
25	1.8	1.6	2.1	2.2	2	1.9	2.2

M481 Experiment 2

Days	Control					NAC				
0	0.9	1	0.9	1.1	0.8	1.2	0.9	0.8	1.3	0.8
7	1.1	1.5	1.3	1.6	1.5	1.3	1	1	1.4	1
15	1.4	2	1.4	1.8	1.7	1.4	1.2	1.1	1.6	1.1
21	1.8	2.2	1.8	2	2	1.5	1.4	1.4	1.9	1.2
28	2.1	2.3	2	2.3	2.2	1.6	1.4	1.6	2	1.4

M481 Experiment 3

Days	Control				NAC				
0	0.6	0.7	0.8	0.8	0.5	0.7	0.8	0.7	0.9
7	1	0.9	1.1	1	0.7	1	1	1.1	0.8
14	1.5	1.4	1.4	1.1	0.9	1.1	1.1	1.2	1.2
21	1.5	1.7	1.5	1.4	1.3	1.4	1.5	1.3	1.4
25	2.1	1.9	1.6	1.8	1.5	1.7	1.5	1.7	1.4
36	2.4	2.3	2	2	1.8	2	1.6	1.9	1.7

UT10 Experiment 1

Days	Control					NAC			
0	0.7	1	0.6	0.6	0.6	0.6	1.1	0.6	0.7
4	0.9	1	0.7	0.7	0.9	0.7	1.5	0.6	1.1
7	1	1.1	0.9	1	1	0.8	1.6	1.1	1.5
11	1.1	1.2	1	1.3	1.3	1.1	1.7	1.1	1.7
18	1.6	1.5	1.3	1.8	1.5	1.4	2.1	1.4	2
25	1.8	1.7	1.7	1.9	1.7	1.7	2.3	1.7	2.4

UT10 Experiment 2

Days	Control					NAC				
0	1	1	0.5	1.5	1.1	0.9	0.9	0.7	0.6	0.7
10	1.4	1.6	1.1	1.8	1.5	1.3	1.6	1.4	1.3	1.4
17	2	2.1	1.6	2.1	2.3	1.4	2	1.6	1.4	1.5
24	2.1	2.2	2	2.5	2.5	1.6	2.2	1.7	1.8	1.8

Tumour Measurements

Figure 3b

UT10 Experiment 1

Days	Control					MTX (1.25mg)				
0	1	1	0.5	1.5	1.1	0.7	1	0.9	0.7	0.6
10	1.4	1.6	1.1	1.8	1.5	0.9	1.4	1	1.3	1
17	2	2.1	1.6	2.1	2.3	1.3	1.8	1.2	1.6	1.3
24	2.1	2.2	2	2.5	2.5	1.5	2.1	1.5	1.9	1.7

UT10 Experiment 2

Days	Control					MTX (1.25mg)				
0	0.4	0.3	0.5	0.5	0.7	0.5	0.4	0.6	0.4	0.4
12	0.9	1.2	0.9	1.1	0.9	1.3	0.8	1.4	0.8	0.8
15	1.1	1.6	1.3	1.1	1.4	1.7	1.2	1.7	0.8	0.8
22	1.3	2.1	1.5	1.4	1.7	1.7	1.5	1.9	1.1	1.1
29	1.6	2.4	1.8	1.5	2	1.7	1.8	2.2	1.3	1.3

M481 Experiment 1

Days	Control					MTX (1.25mg)				
0	0.9	1	0.9	1.1	0.8	0.8	0.8	1	1	0.7
7	1.1	1.5	1.3	1.6	1.5	1	1.1	1.4	1.3	0.9
15	1.4	2	1.4	1.8	1.7	1.2	1.4	1.5	1.5	1
21	1.8	2.2	1.8	2	2	1.4	1.7	2	1.7	1.2
28	2.1	2.3	2	2.3	2.2	1.5	2	2.2	1.9	1.4

M481 Experiment 2

Days	Control					MTX (1.25mg)				
0	0.9	1.3	1	1.1	1	0.8	0.8	0.9	0.7	1
5	1	1.6	1.1	1.1	1.3	1	1.3	1.1	1	1
11	1.3	1.7	1.2	1.1	1.4	1	1.5	1.1	1.1	1.1
21	1.7	1.9	1.2	1.3	1.8	1.2	1.8	1.2	1.4	1.4
26	1.7	2.3	1.3	1.6	2.1	1.3	1.8	1.4	1.7	1.6
32	1.9	2.4	1.7	1.8	2.3	1.3	1.8	1.4	1.7	1.7

M405 Experiment 1

Days	Control					MTX (1.25mg)				
0	0.7	0.8	1.5	1.4	0.7	1.1	1.1	1.2	1.3	0.9
6	0.8	0.8	1.6	1.5	1	1.2	1.2	1.3	1.4	1.1
13	0.9	1.1	2	1.7	1.2	1.6	1.4	1.5	1.7	1.4
20	1.1	1.3	2.2	1.9	1.3	1.7	1.6	1.8	1.7	1.7

M405 Experiment 2

Days	Control					MTX (1.25mg)				
0	1.2	1.3	1.9	1.5		1.1	1.5	1.5	0.8	
5	1.2	1.4	1.9	1.6		1.1	1.6	1.5	0.8	
11	1.4	1.5	1.9	1.7		1.1	1.7	1.6	0.9	
21	1.4	1.7	1.9	1.8		1.1	1.8	1.7	1	
26	1.5	1.9	1.9	2		1.1	2	1.8	1	
32	1.6	2	2	2.1		1.1	2.1	1.9	1	

Tumour Measurements

Figure 3e

M405 Experiment 1

Days	shControl					shALDH1L2 sh1					shALDH1L2 sh2				
0	0.7	1.1	0.7	1	0.9	0.8	0.7	1	0.9	0.7	0.8	0.6	0.5	0.9	0.9
11	0.9	1.1	0.9	1.3	1	1	1	1.2	1.1	0.9	0.9	1	0.7	1.1	1
25	1.2	1.5	1.1	1.8	1.2	1.1	1.5	1.5	1.4	1.2	1.5	1.2	1	1.3	1.2
40	1.5	1.8	1.6	2.3	1.7	1.4	2	1.7	1.7	1.5	1.8	1.3	1.4	1.6	1.6
44	1.7	1.8	1.6	2.4	1.7	1.4	2.3	1.8	1.8	1.5	2	1.6	1.5	1.6	1.6

M405 Experiment 2

Days	Control				ALDH1L2 sh1				ALDH1L2 sh2					
0	1.1	0.3	0.5	0.8	0.8	1.3	1	1	1.1	1.4	1.2	1.1	1.2	1.2
14	1.6	0.5	0.6	1.2	1	1.4	1.3	1.3	1.5	2	1.7	1.4	1.4	1.4
35	2.5	1.1	0.8	1.8	1.7	2.1	1.6	1.6	2	2.4	2.4	1.9	2.1	2.1

M481 Experiment 1

Days	Control				ALDH1L2 sh1				ALDH1L2 sh2						
0	0.7	0.8	0.9	0.5	0.8	1.1	0.9	0.6	1.2	0.9	0.9	0.8	0.7	0.8	1
28	1.8	1.3	1.6	1.2	1.6	2.4	1.7	1.5	1.7	1.8	1.8	1.3	1.7	1.5	1.8
42	1.8	1.6	2	1.6	1.7	2.5	1.9	1.9	2	2.1	1.9	1.5	1.9	1.7	2.1

M481 Experiment 2

Days	Control					ALDH1L2 sh1				ALDH1L2 sh2					
0	0.9	0.8	0.7	1.1	0.6	0.9	1.1	1	0.8	1	1.4	0.9	1.1	1.4	1.5
11	1.1	1	1.1	1.3	1	1.3	1.7	1.2	1	1.5	1.7	1.2	1.2	1.8	1.8
21	1.3	1.4	1.5	1.5	1.5	1.7	2.1	1.4	1.4	2	1.9	1.4	1.5	2.2	2
34	2.2	2	2.3	1.8	2	2.1	2.5	1.8	1.9	2.3	2.2	2	2.1	2.5	2.3

M481 Experiment 3

Days	Control					ALDH1L2 sh1				ALDH1L2 sh2					
0	1.4	1.6	1.6	1.7	1.4	1.5	1.2	1	1.8	1.7	1.2	1.3	1.5	1.3	1.3
11	1.7	2.1	1.9	2	1.7	2.1	1.7	1.3	2.3	2.5	1.5	1.6	1.8	1.8	1.5
17	1.8		2		2.2	2.5	2.1	1.4			2	1.9			1.8

M481 Experiment 4

Days	Control				ALDH1L2 sh1				ALDH1L2 sh2					
0	1.3	1.1	0.6	0.8	0.9	1	0.9	1.1	1	0.9	1.3	0.9		
13	2.2	1.7	1.2	1.5	1.3	1.9	1.7	2.1	1.7	1.5	2.1	1.4		
18	2.5	2.2	1.4	1.5	1.7	1.9	1.7	2.4	2	2	2.4	1.6		
25		2.4	1.7	1.9	1.9	2.5	2.3		2.2	2.4		1.8		

Tumour Measurements

Figure 3i

M405 Experiment 1

Days	Control				MTHFD1 shRNA 1					MTHFD1 shRNA 2				
0	0.4	1	0.7	0.5	0.2	0.7	0.8	0.6	0.6	0.7	0.8	0.4	0.6	0.6
20	0.6	1.7	1.2	0.8	0.3	1.4	1.4	1.3	1.3	1.1	1.3	0.9	1.1	1.4
41	1	2.3	1.9	1.5	0.6	2.2	2.1	1.9	2	1.8	1.7	1.4	1.8	2.1
45	1	2.6	1.9	1.7	0.8	2.5	2.3	2.2	2.1	2.1	1.8	1.7	1.8	2.3

M405 Experiment 2

Days	Control shRNA					MTHFD1 shRNA 1					MTHFD1 shRNA 2				
0	0.3	0.4	0.2	0.7	0.4	0.3	0.6	0.2	0.2	1	0.3	0.5	0.2	0.7	0.7
28	1.3	1.2	1.2	0.9	0.8	1	1.5	0.9	0.7	1.1	0.8	1.2	1.4	1.5	1.1
42	1.6	1.5	1.6	1.3	1.1	1.2	1.6	1.3	1.2	1.6	1.2	1.6	1.8	1.8	1.6
54	2	1.8	1.8	1.5	1.2	1.5	2	1.6	1.4	1.8	1.4	2.1	2.2	2.2	1.9

M481 Experiment 1

Days	Control				MTHFD1 shRNA 1					MTHFD1 shRNA 2					
0	1.2	1.1	0.9	0.9	1	1.4	1	0.9	1.3	1.3	0.6	0.7	0.5	1	
9	1.4	1.2	1.1	1.2	1.3	1.4	1.9	1.4	1.4	1.7	1.8	1.2	1	0.8	1.5
14	1.6	1.5	1.3	1.4	1.6	1.6	2	1.4	1.6	1.9	2	1.5	1.1	1	1.7
20	1.6	1.6	1.4	1.4	1.6	1.6	2.3	1.5	1.6	2.2	2.1	1.6	1.3	1.3	1.8

M481 Experiment 2

Days	Control				MTHFD1 shRNA 1					MTHFD1 shRNA 2				
0	1.1	1.6	1.3	0.9	1.4	1.7	1.1	1.5	1.4	1.2	1.7	1.2	1.1	1.4
7	1.6	2	1.8	1.4	1.8	2.3	1.5	1.9	1.7	1.4	1.8	1.4	1.5	1.9
12	1.7	2.1	1.9	1.6	2	2.3	1.5	2.1	1.8	1.5	1.8	1.5	1.7	2.3