

USER: 1 ID:WIPE PRESET TIME: 1.00 FRI 26 APR 1996 09:43
 SAMPLE REPEAT: 1 CYCLE REPEAT: 1 SCR:N RS232:N
 1 ABC:N QCF:N RCM:N
 CHANNEL 1-LL: 0 UL: 400 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR: 0
 CHANNEL 2-LL: 0 UL: 670 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR: 0
 CHANNEL 3-LL: 0 UL:1000 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR: 0
 DATA CALC: CPM, UNKNOWN REPLICATES: 1 NORM FACTOR:0 1.00000
 HALF LIFE(DAYS):N

SAM	POS	CH	CPM	2SIG%	TIME	EL TIME	AVG H#	ERR
1 **	1	1	21.00	43.64	1.00	1.47	112.0	
		2	28.00	37.80				
		3	38.00	32.44				
2 **	2	1	33.00	34.82	1.00	3.07	110.0	
		2	41.00	31.23				
		3	47.00	29.17				
3 **	3	1	27.00	38.49	1.00	4.68	121.0	
		2	35.00	33.81				
		3	40.00	31.62				
4 **	4	1	60.00	25.82	1.00	6.30	134.0	
		2	64.00	25.00				
		3	66.00	24.62				
5 **	5	1	44.00	30.15	1.00	7.86	106.0	
		2	49.00	28.57				
		3	54.00	27.22				
6 **	6	1	26.00	39.22	1.00	9.47	127.0	
		2	33.00	34.82				
		3	40.00	31.62				
7 **	7	1	23.00	41.70	1.00	11.08	114.0	
		2	29.00	37.14				
		3	36.00	33.33				
8 **	8	1	29.00	37.14	1.00	12.73	101.0	
		2	34.00	34.30				
		3	41.00	31.23				

1 AD, 2 Hood, 3 Ref, 4 ~~HALO~~ MUB

5 con, 6 Tel, 7 Cent 8, PIP

A-679

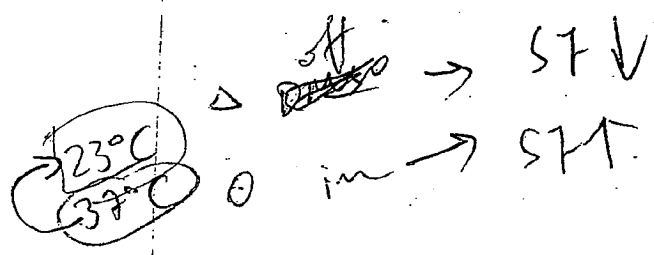
Office of Radiation Safety Services, LAB

	³ H TdR + 5% DMSO			Exp. 2
	CPM1	CPM2	CPM3	Ave. CPM
1S	5	10	7	7.33
2S	8	7	9	8
3S	401	456	449	435.3
4S	1465	1500	1478	1481
5S	2634	2555	2565	2584.7
6S	11	5	8	8
7S	10	12	5	9
8S	472	467	427	455.3
9S	1430			
10S				
1C				
2C				
3C				
4C				
5C				
6C				
7C				
8C				
9C				
10C				

$$(435.3 - 7.65)$$

$$60 \times 0.65 \times 1$$

$$\frac{\text{Eq}}{0.020 \text{ ml}} = 0.548 \times 10^6 \text{ Eq}$$

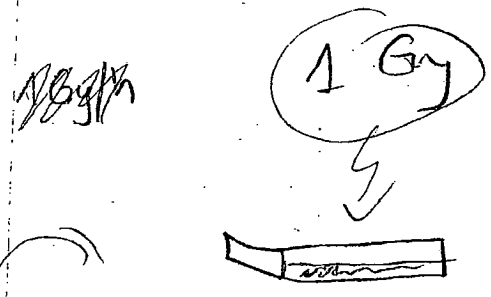


0.6. 0.04
0.016

6.071 Eq.

0 1 2 4 6 8 10

0.4 0.105 - with 1.9816×10^{17} Eq $\times 10^3$
12 14 - Gy - absorbed dose
0.058 - wild. - dose rate/μ



$$100 = 33880 = \pi = 847$$

↓
2.5 ml.

- ① We make mistakes → → again
 - ② Exp. very good? → natural C.F.?
 - ③ There is protetation, but limited
- First phase: N.C.F.
Second phase: protetation of N.C.F + H⁻
Third phase: N.C.F + H³

really want to expl.

³H TdR + 5% DMSO Exp. 2.

Tab. 1. ³H Counts

	CPM ₁	CPM ₂	CPM ₃	Ave. CPM	MBq/ml
	5	10	7	7.65 < 7.3	
	8	7	9	8	
20ul supernatant	401	456	449	435.3	0.548
	1465	1500	1478	1481	1.889
	2364	2555	2585	2584	3.303
	11	5	8	8.5 < 8	
	10	12	5	9	
	472	467	427	455.3	0.573
	1430	1492	1449	1457	1.857
	2590	2604	2562	2585.3	3.304
	7	15	12	9.5 < 11.3	
	11	5	7	7.7	
	186	294	259	246.3	0.198
	899	725	841	821.7	0.608
	913	943	951	935.7	0.864
	7	10	12	9.7	
	13	12	5	10	
	220	293	310	274.3	0.190
	769	582	593	648.	0.539
	1311	1199	1093	1201	0.960

20ul supernatant

10ul cells

MBq/ml
MBq/cell

³H TdR + 5% DMSO Exp. 2

4/30/96

(x40)

Tab. 2 Coulter Counts

Tube #				Avg.	Cells/100µL
1	1068	1098	1052	1072.7	42908
2	849	861	831	847	33860
3	801	725	772	766	30640
4	827	832	911	856.7	34268
5	703	687	667	685.7	27428
6	805	810	838	817.7	32708
7	839	831	819	829.7	33188
8	882	905	889	892	35680
9	776	750	751	759	30368
10	767	797	760	774.7	30976

Tab. 3

5/7/96

Tube/Dilution	Colony 1	Colony 2	Colony 3	Avg.	Survival fraction
1.2	222	202	201	201.3	1.0
2.2	210	183	190		194.3
3.2	48	60	62	56.7	0.282
4.3	66	88	73	75.7	0.0376
5.4	96	80	98	91.3	0.00454
6.2	170	168	189	176.5	1.0
7.2	162	179	191		177.3
8.2	58	41	68	55.7	0.316
9.3	38	34	32	34.7	0.0197
10.4	42	50	51	47.7	0.00270

³HTR + 5% DMSO Exp 3

66

765	818	768	803				
516	496	545					
476	450	496					
494	476	500					
449	457	468					
494	505	521					
417	418	411	399				
464	476	429					
338	341	475	441	312	375	275	366
353	345	333					

3HTDR + 5% DMSO Exp 3

SER: 1 ID:WIPE PRESET TIME: 1.00 FRI 10 MAY 1996 10:27
 SAMPLE REPEAT: 1 CYCLE REPEAT: 1 SCR:N RS232:N
 1 ABC:N GCF:N RCM:N
 CHANNEL 1-LL: 0 UL: 400 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR: 0
 CHANNEL 2-LL: 0 UL: 670 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR: 0
 CHANNEL 3-LL: 0 UL: 1000 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR: 0
 DATA CALC: CPM. UNKNOWN REPLICATES: 1 NORM FACTOR: 1.00000
 ALF LIFE(DAYS):N

AM	POS	CH	CPM	2SIG%	TIME	EL TIME	AVG H#	ERR
	1	28-18	1	26.00	39.22	1.00	1.40	81.0
			2	35.00	33.81			
			3	41.00	31.23			
	2	28- 1	1	3989.00	3.17	1.00	3.16	136.0
			2	3997.00	3.16			
			3	4000.00	3.16			
	3	28- 2	1	2241.00	4.22	1.00	4.86	133.0
			2	2249.00	4.22			
			3	2250.00	4.22			
	4	28- 3	1	13.00	35.47	1.00	8.50	107.0
			2	23.00	41.70			
			3	26.00	39.22			
	5	28- 4	1	4239.00	3.07	1.00	8.42	109.0
			2	4246.00	3.07			
			3	4246.00	3.07			
	6	28- 5	1	14.00	53.45	1.00	10.16	106.0
			2	26.00	39.22			
			3	27.00	38.49			
	7	28- 6	1	626.00	7.99	1.00	11.91	107.0
			2	635.00	7.94			
			3	644.00	7.88			
	8	28- 7	1	2363.00	4.11	1.00	13.75	110.0
			2	2368.00	4.11			
			3	2373.00	4.11			
	9	28- 8	1	4878.00	2.86	1.00	15.46	109.0
			2	4885.00	2.86			
			3	4888.00	2.86			
	10	28- 9	1	7.00	75.59	1.00	17.11	106.0
			2	17.00	48.51			
			3	19.00	45.88			
	11	28-10	1	8.00	70.71	1.00	18.80	109.0
			2	19.00	45.88			
			3	24.00	40.82			
	12	28-11	1	728.00	7.41	1.00	20.46	109.0
			2	740.00	7.35			
			3	745.00	7.33			
	13	28-12	1	2326.00	4.15	1.00	22.10	112.0
			2	2334.00	4.14			
			3	2338.00	4.14			
	14	28-13	1	10.00	63.25	1.00	23.74	108.0
			2	13.00	55.47			
			3	15.00	51.64			

JM	POS	CH	CPM	2516%	TIME	EL TIME	AVG H#	ERR
	28-14	1	12.00	57.74	1.00	25.44	108.0	
		2	20.00	44.72				
		3	26.00	39.22				
<i>M</i>	28-15	1	677.00	7.69	1.00	27.11	109.0	
		2	688.00	7.62				
<i>3M</i>		3	688.00	7.62				
<i>17</i>	28-16	1	2372.00	4.11	1.00	28.86	108.0	
		2	2383.00	4.10				
<i>4M</i>		3	2384.00	4.10				
<i>18</i>	28-17	1	4858.00	2.87	1.00	30.61	109.0	
		2	4868.00	2.87				
<i>5M</i>		3	4869.00	2.87				
<i>19</i>	28-18	1	16.00	50.00	1.00	32.50	106.0	
		2	24.00	40.82				
<i>6M</i>		3	28.00	37.80				
<i>20</i>	**-- 1	1	6.00	81.65	1.00	34.83	111.0	
		2	14.00	53.45				
<i>7M</i>		3	17.00	48.51				
<i>21</i>	**-- 2	1	729.00	7.41	1.00	36.48	109.0	
		2	732.00	7.39				
<i>8M</i>		3	737.00	7.37				
<i>22</i>	**-- 3	1	2197.00	4.27	1.00	38.17	107.0	
		2	2204.00	4.26				
<i>9M</i>		3	2207.00	4.26				
<i>23</i>	**-- 4	1	4373.00	3.02	1.00	40.03	110.0	
		2	4383.00	3.02				
<i>10M</i>		3	4389.00	3.02				
<i>24</i>	**-- 5	1	6.00	81.65	1.00	41.72	106.0	
<i>11M</i>		2	13.00	55.47				
		3	20.00	44.72				
<i>25</i>	**-- 6	1	10.00	63.25	1.00	43.37	107.0	
<i>2M</i>		2	16.00	50.00				
		3	22.00	42.64				
<i>26</i>	**-- 7	1	657.00	7.80	1.00	45.07	107.0	
		2	664.00	7.76				
<i>3M</i>		3	668.00	7.74				
<i>27</i>	**-- 8	1	2294.00	4.18	1.00	46.72	107.0	
		2	2302.00	4.17				
<i>4M</i>		3	2305.00	4.17				
<i>28</i>	**-- 9	1	4839.00	2.88	1.00	48.37	109.0	
		2	4850.00	2.87				
<i>5M</i>		3	4853.00	2.87				
<i>29</i>	**--10	1	16.00	50.00	1.00	50.02	108.0	
<i>6M</i>		2	23.00	41.70				
		3	25.00	40.00				
<i>30</i>	**--11	1	7.00	75.59	1.00	51.67	109.0	
		2	11.00	60.30				
<i>7M</i>		3	13.00	55.47				
<i>31</i>	**--12	1	792.00	7.11	1.00	53.32	108.0	
		2	806.00	7.04				
<i>1 8M</i>		3	807.00	7.04				

AM	POS	CH	CFM	2SIG%	TIME	EL TIME	AVG HH	ERR
P GM	**13	1	2232.00	4.23	1.00	55.05	106.0	
		2	2242.00	4.22				
		3	2243.00	4.22				
C 10M	**14	1	4252.00	3.07	1.00	56.92	111.0	
		2	4254.00	3.07				
		3	4259.00	3.06				

Exp 3 HTDR

PR: 1 ID:WIPE PRESET TIME: 1.00 MON 13 MAY 1996 13:08
 IPLE REPEAT: 1 CYCLE REPEAT: 1 SCR:N RS232:N
 1 AQC:N DCF:N RCM:N
 CHANNEL 1-LL: 0 UL: 400 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR: 0
 CHANNEL 2-LL: 0 UL: 670 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR: 0
 CHANNEL 3-LL: 0 UL: 1000 2SIGMA: 2.00 BKG SUB: 0.00 BKG 2SIG: 0.00 LSR: 0
 ATA CALC: CPM, UNKNOWN REPLICATES: 1 NORM FACTOR: 0 1.00000
 ALF LIFE(DAYS):N

AM	POS	CH	CPM	2SIG%	TIME	EL TIME	AVG H#	ERR
7c	1 ** -18	1	31.00	35.92	1.00	1.40	81.0	
		2	47.00	29.17				
		3	58.00	26.26				
7c	2 ** - 1	1	18.00	47.14	1.00	3.21	124.0	
		2	23.00	41.70				
		3	26.00	39.22				
7c	3 ** - 2	1	16.00	50.00	1.00	4.86	112.0	
		2	25.00	40.00				
		3	29.00	37.14				
8c	4 ** - 3	1	7.00	75.59	1.00	6.60	126.0	
		2	14.00	53.45				
		3	17.00	48.51				
8c	5 ** - 4	1	1017.00	6.27	1.00	8.42	125.0	
		2	1028.00	6.24				
		3	1031.00	6.23				
8c	** - 5	1	1034.00	6.22	1.00	10.18	122.0	
		2	1045.00	6.19				
		3	1050.00	6.17				
9c	7 ** - 6	1	772.00	7.20	1.00	11.83	118.0	
		2	786.00	7.13				
		3	790.00	7.12				
9c	8 ** - 7	1	2032.00	4.44	1.00	13.53	116.0	
		2	2047.00	4.42				
		3	2053.00	4.41				
9c	9 ** - 8	1	2315.00	4.16	1.00	15.18	123.0	
		2	2324.00	4.15				
		3	2330.00	4.14				
10c	10 ** - 9	1	2219.00	4.25	1.00	16.94	121.0	
		2	2234.00	4.23				
		3	2236.00	4.23				
10c	11 ** -10	1	4916.00	2.85	1.00	18.78	129.0	
		2	4920.00	2.85				
		3	4921.00	2.85				
10c	12 ** -11	1	4765.00	2.90	1.00	20.43	123.0	
		2	4772.00	2.90				
		3	4776.00	2.89				
10c	13 ** -12	1	4797.00	2.89	1.00	22.08	130.0	
		2	4802.00	2.89				
		3	4804.00	2.89				
10c	** - 1	1	7.00	75.59	1.00	23.89	130.0	
		2	13.00	55.47				
		3	19.00	45.88				

SAM	POS	CH	CPM	2516%	TIME	EL TIME	AVG H#	ERR
2c	**	2	1	7.00	75.59	1.00	25.59	131.0
			2	18.00	47.14			
			3	21.00	43.64			
2c	**	3	1	21.00	43.64	1.00	27.25	129.0
			2	27.00	38.49			
			3	28.00	37.80			
2c	**	4	1	7.00	75.59	1.00	29.00	130.0
			2	13.00	55.47			
			3	16.00	50.00			
2c	**	5	1	9.00	66.67	1.00	30.74	131.0
			2	17.00	48.51			
			3	21.00	43.64			
2c	**	6	1	8.00	70.71	1.00	32.50	129.0
			2	14.00	53.45			
			3	15.00	51.64			
3c	**	7	1	666.00	7.75	1.00	34.34	132.0
			2	671.00	7.72			
			3	673.00	7.71			
3c	**	8	1	750.00	7.30	1.00	36.03	123.0
			2	753.00	7.29			
			3	754.00	7.28			
3c	**	9	1	766.00	7.23	1.00	37.69	130.0
			2	770.00	7.21			
			3	773.00	7.19			
4c	**	10	1	2575.00	3.94	1.00	39.34	126.0
			2	2578.00	3.94			
			3	2580.00	3.94			
4c	**	11	1	2691.00	3.86	1.00	41.14	126.0
			2	2699.00	3.85			
			3	2702.00	3.85			
4c	**	12	1	2617.00	3.91	1.00	42.86	132.0
			2	2626.00	3.90			
			3	2629.00	3.90			
5c	**	13	1	4259.00	3.06	1.00	44.51	126.0
			2	4268.00	3.06			
			3	4271.00	3.06			
5c	**	14	1	3958.00	3.18	1.00	46.15	124.0
			2	3967.00	3.18			
			3	3973.00	3.17			
5c	**	15	1	4290.00	3.05	1.00	47.91	130.0
			2	4297.00	3.05			
			3	4299.00	3.05			
6c	**	16	1	10.00	63.25	1.00	49.55	127.0
			2	21.00	43.64			
			3	23.00	41.70			
6c	**	17	1	12.00	57.74	1.00	51.20	126.0
			2	19.00	45.88			
			3	26.00	39.22			
6c	**	18	1	9.00	66.67	1.00	52.89	126.0
			2	20.00	44.72			
			3	23.00	41.70			

³HTdR + 5% DMSO Exp. 3
Colony Counts

2	87	79	76					
2.2	56	45	50					
3.2	8	8	7					
4.2	3	3						
4.3	3	3	4					
5.4	24	24	29					
7.2	54	41	36	↖	6.2	14	10	11
8.2	4	5	12					
9.4	28	21	29					
10.4	17	13	20					

Tab. 3 Tube/Dilution	Colony 1	³ H TdR + 5% DMSo Colony 2	Colony 3	Exp. 3 Avg	May 1/13 ~ 21 Survival Fraction
1-2	87	79	76	65.5 { 80.7 50.3	1.0
2-2	56	45	50		
3-2	8	8	7	7.7	0.118
4-3	3	3	4	3.7	0.0056
5-4	24	24	29	9.7	0.00148
6-2	14	10	11	27.7 { 11.7 43.7	1.0
7-2	54	41	36		
8-2	4	5	12	7	0.253
9-4	28	21	29	26	0.00939
10-4	17	13	20	16.7	0.00603