

4/30/96

<sup>3</sup>HTAR + 5% DMSO  
Exp - 2

1	1068	1098	1052	
2	<del>875</del>	849	861	831
3	801	725	772	
4	827	<del>777</del>	832	911
5	703	687	667	
6	805	810	838	
7	<del>952</del>	839	831	<del>747</del> ; 819
8	882	905	889	
9	776	<del>775</del>	751	
10	767	797	760	

(201) 982-6961  
210

Counter Counts  
100HR cell susp.

Ave  
1072.7  
847  
766  
856.7  
685.7  
817.7  
829.7  
892  
759.0  
774.7

~~+579 Rhineland Ave apt. three J.  
Brook NY 10661  
tel. 718-918-9157~~

9-1800

5/17/96

Colony Counts

ave.

	<u>RWH</u>		<u>Li</u>		<u>S.F.</u>
1.2	222, 202, 201	208.3	<del>778</del> ; 192, 207, 201	} Control	<del>200</del> DMSO ~1
2.2	210, 183, 190	194.3	185, 178, 202		<del>188.3</del>
3.2	48, 60, 62	<del>56.7</del>	46, 64, 62		<del>57.3</del>
4.3	<del>65, 88</del> , 73	75.7	81, 87, 79		<del>82.3</del>
5.4	96, 80, 98	91.3	87, 105, 92		
6.2	170, 168, 189	175.7	154, 168, 186	} Control	
7.2	162, 179, 191	177.3	190, 159, 172		
8.2	58, 41, 68	<del>56.7</del>	51, 68, 41		
9.3	38, 34, 32	34.7	34, 43, 32		
10.4	42, 50, 51	47.7	59, 59, 49		

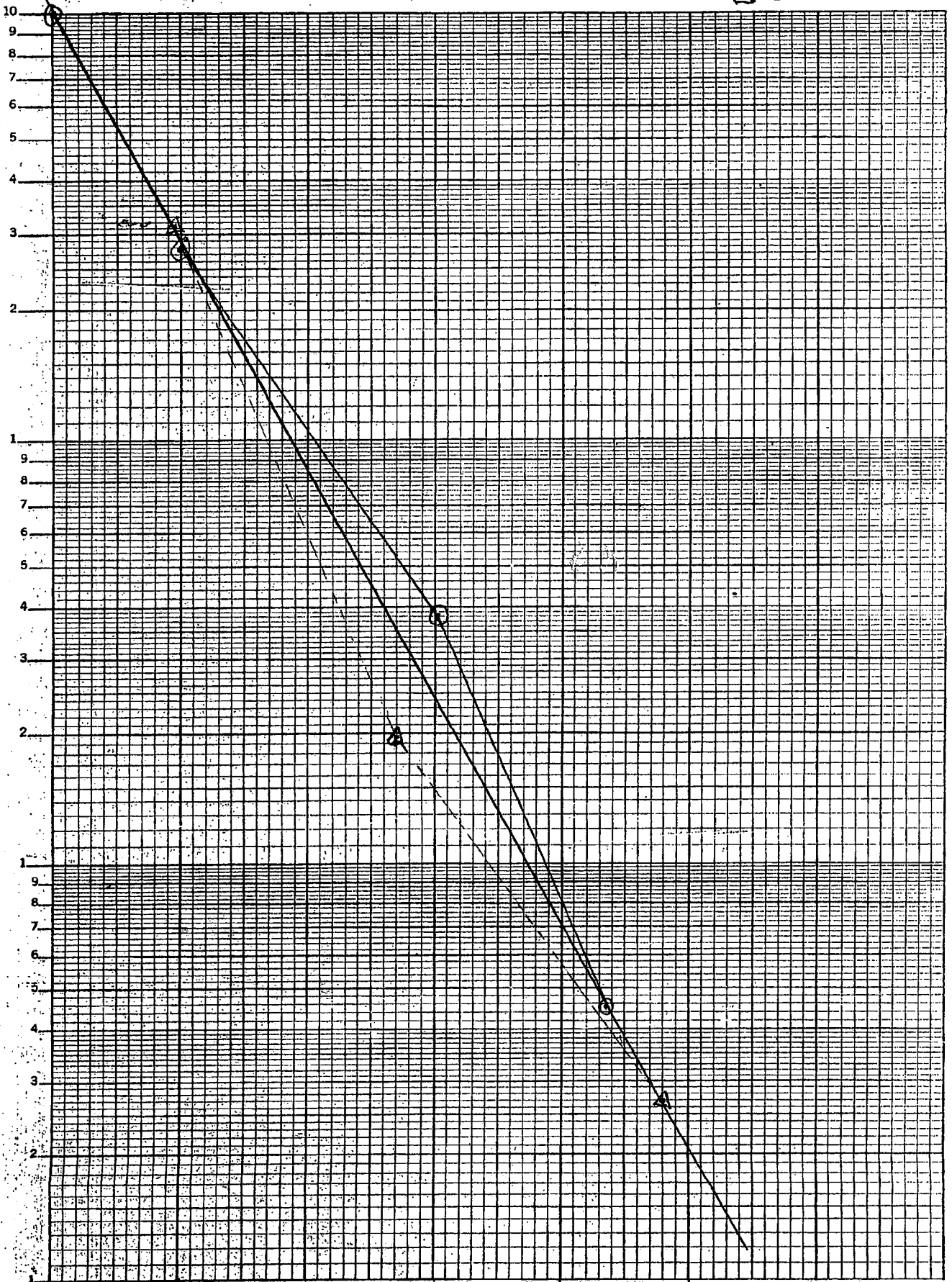
<sup>3</sup>HTdR Exp. 2

⊙ with DMSO 5%

△ without DMSO

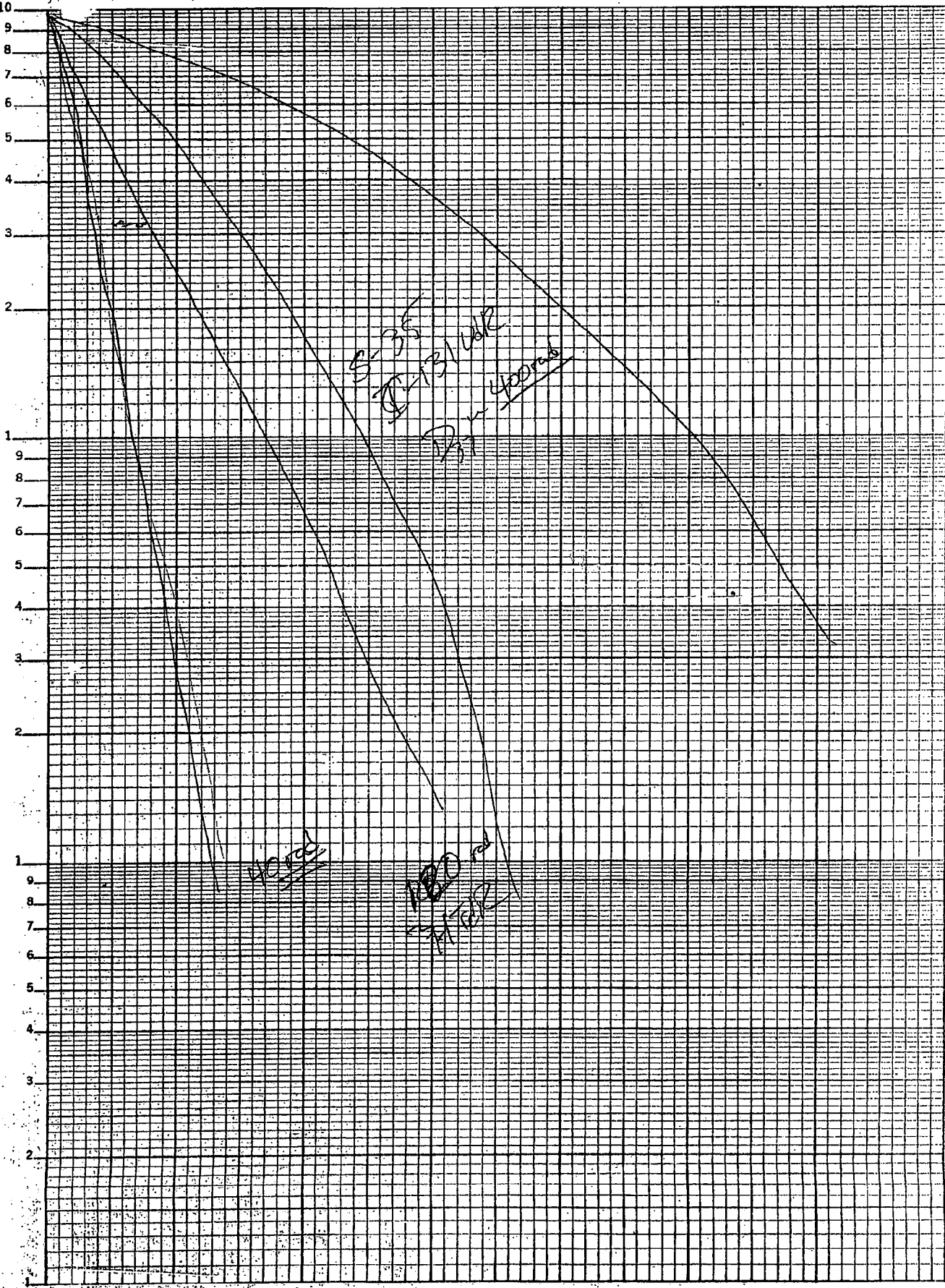
NATIONAL  
12-183  
MANUFACTURE

Survival fraction



Semi-Logarithmic  
3 Cycles x 10 to the inch

0.2 0.4 Activity/cell (mBa/cell) 1.0



## Activity per Cell

yield = number of radiations emitted  
per nuclear disintegration (decay)

$$\text{yield} = 0.5 \quad \text{yield} = 0.1$$

$$H^3 \Rightarrow \text{yield} = 1.0$$

$$\text{Activity per cell (Bq/cell)} = \frac{\text{Activity in 100}\mu\text{L cells}}{\text{Number cells in 100}\mu\text{L cells}}$$

$$\text{Activity (Bq)} = \frac{\text{CPM}}{60} \cdot \frac{1}{\text{efficiency}} \cdot \frac{1}{\text{yield}}$$

$$\text{Activity} = \frac{(246.3 - 9.5) \frac{\text{counts}}{\text{min}} \left( \frac{1 \text{ min}}{60 \text{ sec}} \right)}{(0.65)(1.0)}$$

$$= 6.07 \text{ Bq} \text{ in } 100\mu\text{L of cell suspension}$$

$$\begin{aligned} \text{Activity per cell} &= \frac{6.07 \text{ Bq}}{30640 \text{ cells}} = 0.000198 \frac{\text{Bq}}{\text{cell}} \\ &= 0.198 \frac{\text{mBq}}{\text{cell}} \end{aligned}$$

1 Bq  $\equiv$  1 disintegration per second

Activity per ml  
in culture medium

20 ml of  
medium was  
counted.

Activity Concentration =  
per ml

$$\frac{\text{CPM} \left( \frac{\text{CPM}}{60} \right)}{(\text{efficiency})(\text{yield})(0.02 \text{ ml})}$$

$$= \frac{\left( \frac{435.3 - 7.65}{60} \right)}{(0.65)(1.0)(0.02 \text{ ml})}$$

$$= 548 \frac{\text{Bq}}{\text{ml}}$$

$$= 0.548 \frac{\text{kBq}}{\text{ml}}$$