

CENTRAL ANALYTICAL LABORATORY

Report No. 6967

Date August 4, 1978

Subject: IRDC 137-092: FC-95/Monkey

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Dept. Name Toxicology

Proj. No. 9172110004

Request No. A69507

Dated 8/3/78

Report:

Reference 137-087 by IRDC was a 90 day subacute Rhesus monkey toxicity study of FC-95. Incorrect (too high) feeding levels were used and all animals died within the first few days. The feeding levels were lowered and the study started again as 137-092. The serum and livers were each individually submitted for analysis. Each group contained 4 monkeys, 2 male and 2 female as follows:

Group	Dosage Level	Survival
I	0	4/4
II	0.5 mg/kg/day	4/4
III	1.5 mg/kg/day	4/4
IV	4.5 mg/kg/day	0/4

SERUM ANALYSIS

Monkey	Dosage Level	FC-95 in Serum (ppm) ^①
Blank on Method	-	2
7355M	0	40
7358M	0	20
7368F	0	15
7463M	0.5 mg/kg/day	150
7466F	"	150
7462M	1.5 mg/kg/day	250
7500F	"	275

① Our newly developed pyrolysis method was used. Precision is estimated to be ±10 - 25%.

Exhibit
1181

State of Minnesota v. 3M Co.,
Court File No. 27-CV-10-28862

3M_MN02343995

August 8, 1978

The high levels of FC-95 in the control serum cannot be explained. For example, 7355M was run on 2 different days with the same experimental results. Perhaps a total fluorine should be run on this sample to determine if this level of F is present. See Table below containing liver results for further discussion (Footnote 2).


LIVER ANALYSIS

Monkey	Dosage Level	FC-95 in Liver (mg) ^①	FC-95 in Liver (ppm)
7355M	0	3000	50
7368F	0	1500 ^②	20 ^②
7463M	0.5 mg/kg/day	7000	100
7466F	"	8000	100
7462M	1.5 mg/kg/day	45000	650
7500F	"	40000	600
7484M	4.5 mg/kg/day	40000	650
7502F	"	80000	1000

① The livers were stored in the refrigerator several months prior to analysis resulting in the separation of some liquid. The high values and physical size necessitates taking only partial livers in which case the same ratio (estimated visually) of solid to separated liquid was taken for analysis. In addition, recovery of FC-95 was estimated from experiments where FC-95 was added to a control liver.

② Because of a higher than expected value for the control, a 0.133 g liver sample was analyzed for total fluorine. The fluorine value calculated as FC-95 is equivalent to 11 ppm FC-95 in the liver. As time permits, more work should be done to verify these "high" control levels.


Jon Belisle


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