

**Experiment Number:** 20105 - 56  
**Test Type:** CHRONIC  
**Route:** Whole Body Exposure  
**Species/Strain:** RATS/HSD

**P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS**  
Cell Phone Radiation: CDMA  
**CAS Number:** CELLPRADCDMA

**Date Report Requested:** 01/04/2018  
**Time Report Requested:** 10:14:50  
**First Dose M/F:** 09/16/12 / 09/16/12  
**Lab:** IIT

Custom Report with Rao-Scott Poly6

<b>NTP Study Number:</b>	C20105B		
<b>Lock Date:</b>	12/29/2015		
<b>Cage Range:</b>	ALL		
<b>Date Range:</b>	ALL		
<b>Reasons For Removal:</b>	25022 ACCK	25021 TSAC	25020 NATD
	25019 MSAC		
<b>Removal Date Range:</b>	ALL		
<b>Treatment Groups:</b>	Include ALL		
<b>Study Gender:</b>	Both		
<b>TDMSE Version:</b>	2.5.0.0_sfh		
<b>PWG Approval Date:</b>	NONE		

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**FOR ALL DOSES THE TUMOR RATES IN THE FOLLOWING TISSUES/ORGANS ARE BASED ON NUMBER OF TISSUES EXAMINED.  
IN OTHER TISSUES/ORGANS RATES ARE BASED ON THE NUMBER OF ANIMALS NECROPSIED.**

Brain

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**SUMMARY OF STATISTICALLY SIGNIFICANT ( $P \leq .05$ ) RESULTS IN THE ANALYSIS OF CELL PHONE RADIATION: CDMA**

**MALE RATS**

**Organ**

Brain

**Morphology**

Glioma Malignant

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STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)  
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Males			
	0.0W/kg(CDMA)chr	1.5W/kg(CDMA)chr	3.0W/kg(CDMA)chr	6.0W/kg(CDMA)chr
<b>Brain</b>				
<b>Glioma Malignant</b>				
<b>TUMOR RATES</b>				
OVERALL (a)	0/90 (0%)	0/90 (0%)	0/90 (0%)	3/90 (3%)
LITTERS (b)	0/35 (0%)	0/35 (0%)	0/35 (0%)	3/35 (9%)
POLY-3 RATE (c)	0/65.47	0/74.05	0/78.35	3/66.24
POLY-3 PERCENT (g)	0%	0%	0%	4.5%
TERMINAL (d)	0/25 (0%)	0/43 (0%)	0/56 (0%)	3/43 (7%)
FIRST INCIDENCE	---	---	---	730 (T)
<b>STATISTICAL TESTS</b>				
POLY 3	P=0.011*	(e)	(e)	P=0.122
POLY 1.5	P=0.011*	(e)	(e)	P=0.120
POLY 6	P=0.011*	(e)	(e)	P=0.133
RAO-SCOTT POLY-6	P=0.038*	(e)	(e)	P=0.205
LITTER C-A/FISHERS	P=0.012*	(e)	(e)	P=0.120

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DOSE	Males			
	0.0W/kg(CDMA)chr	1.5W/kg(CDMA)chr	3.0W/kg(CDMA)chr	6.0W/kg(CDMA)chr
<b>Brain</b>				
<b>Granular Cell Tumor Benign</b>				
<hr/>				
<b>TUMOR RATES</b>				
OVERALL (a)	1/90 (1%)	0/90 (0%)	1/90 (1%)	2/90 (2%)
LITTERS (b)	1/35 (3%)	0/35 (0%)	1/35 (3%)	2/35 (6%)
POLY-3 RATE (c)	1/65.47	0/74.05	1/78.35	2/66.73
POLY-3 PERCENT (g)	1.5%	0%	1.3%	3%
TERMINAL (d)	1/25 (4%)	0/43 (0%)	1/56 (2%)	1/43 (2%)
FIRST INCIDENCE	730 (T)	---	730 (T)	582
<hr/>				
<b>STATISTICAL TESTS</b>				
POLY 3	P=0.237	P=0.475N	P=0.719N	P=0.507
POLY 1.5	P=0.239	P=0.486N	P=0.738N	P=0.499
POLY 6	P=0.239	P=0.459N	P=0.686N	P=0.530
RAO-SCOTT POLY-6	P=0.260	P=0.413N	P=0.640N	P=0.488
LITTER C-A/FISHERS	P=0.246	P=0.500N	P=0.754	P=0.500

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)  
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	0.0W/kg(CDMA)chr	1.5W/kg(CDMA)chr	3.0W/kg(CDMA)chr	6.0W/kg(CDMA)chr
<b>Brain</b>				
<b>Granular Cell Tumor: Benign or Malignant</b>				
<b>TUMOR RATES</b>				
OVERALL (a)	1/90 (1%)	1/90 (1%)	2/90 (2%)	2/90 (2%)
LITTERS (b)	1/35 (3%)	1/35 (3%)	2/35 (6%)	2/35 (6%)
POLY-3 RATE (c)	1/65.47	1/74.05	2/78.35	2/66.73
POLY-3 PERCENT (g)	1.5%	1.4%	2.6%	3%
TERMINAL (d)	1/25 (4%)	1/43 (2%)	2/56 (4%)	1/43 (2%)
FIRST INCIDENCE	730 (T)	730 (T)	730 (T)	582
<b>STATISTICAL TESTS</b>				
POLY 3	P=0.331	P=0.733N	P=0.562	P=0.507
POLY 1.5	P=0.329	P=0.745N	P=0.534	P=0.499
POLY 6	P=0.345	P=0.712N	P=0.605	P=0.530
RAO-SCOTT POLY-6	P=0.325	P=0.638N	P=0.548	P=0.461
LITTER C-A/FISHERS	P=0.336	P=0.754	P=0.500	P=0.500

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)  
TERMINAL SACRIFICE AT 106 WEEKS**

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DOSE	Females			
	0.0W/kg(CDMA)chr	1.5W/kg(CDMA)chr	3.0W/kg(CDMA)chr	6.0W/kg(CDMA)chr

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Brain  
Glioma Malignant

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**TUMOR RATES**

OVERALL (a)	0/90 (0%)	3/90 (3%)	0/90 (0%)	0/90 (0%)
LITTERS (b)	0/35 (0%)	3/34 (9%)	0/35 (0%)	0/35 (0%)
POLY-3 RATE (c)	0/69.46	3/73.90	0/71.88	0/79.63
POLY-3 PERCENT (g)	0%	4.1%	0%	0%
TERMINAL (d)	0/48 (0%)	2/45 (4%)	0/50 (0%)	0/61 (0%)
FIRST INCIDENCE	---	550	---	---

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**STATISTICAL TESTS**

POLY 3	P=0.270N	P=0.132	(e)	(e)
POLY 1.5	P=0.286N	P=0.127	(e)	(e)
POLY 6	P=0.253N	P=0.137	(e)	(e)
RAO-SCOTT POLY-6	P=0.363N	P=0.221	(e)	(e)
LITTER C-A/FISHERS	P=0.309N	P=0.114	(e)	(e)

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DOSE	Females			
	0.0W/kg(CDMA)chr	1.5W/kg(CDMA)chr	3.0W/kg(CDMA)chr	6.0W/kg(CDMA)chr
<b>Brain</b>				
<b>Granular Cell Tumor Benign</b>				
<hr/>				
<b>TUMOR RATES</b>				
OVERALL (a)	1/90 (1%)	1/90 (1%)	0/90 (0%)	2/90 (2%)
LITTERS (b)	1/35 (3%)	1/34 (3%)	0/35 (0%)	2/35 (6%)
POLY-3 RATE (c)	1/69.46	1/73.85	0/71.88	2/80.31
POLY-3 PERCENT (g)	1.4%	1.4%	0%	2.5%
TERMINAL (d)	1/48 (2%)	0/45 (0%)	0/50 (0%)	0/61 (0%)
FIRST INCIDENCE	737 (T)	570	---	633
<hr/>				
<b>STATISTICAL TESTS</b>				
POLY 3	P=0.397	P=0.747N	P=0.493N	P=0.550
POLY 1.5	P=0.385	P=0.753N	P=0.497N	P=0.531
POLY 6	P=0.411	P=0.741N	P=0.489N	P=0.571
RAO-SCOTT POLY-6	P=0.434	P=0.693N	P=0.439N	P=0.547
LITTER C-A/FISHERS	P=0.369	P=0.746	P=0.500N	P=0.500

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POLY-3 RATE (c)	1/69.46	1/73.85	0/71.88	2/80.31
POLY-3 PERCENT (g)	1.4%	1.4%	0%	2.5%
TERMINAL (d)	1/48 (2%)	0/45 (0%)	0/50 (0%)	0/61 (0%)
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## **LEGEND**

- (a) Number of tumor-bearing animals/number of animals examined at site.
- (b) Number of litters with tumor-bearing animals/number of litters examined at site
- (c) Number of tumor-bearing animals/Poly-3 number
- (d) Observed incidence at terminal kill.
- (e) Value of statistic cannot be computed.
- (f) Beneath the control incidence are the P-values associated with the trend test. Beneath the dosed group incidence are the P-values corresponding to pairwise comparisons between the controls and that dosed group.
- (g) Poly-3 adjusted lifetime tumor incidence.
- (n) No statistics are calculated if all dose groups have fewer than two tumors.
- (I) Interim sacrifice
- (T) Terminal sacrifice
- # Tumor rates based on numbers of animals necropsied.
- \* To the right of any statistical result, indicates significance at ( $P \leq 0.05$ ).
- \*\* To the right of any statistical result, indicates significance at ( $P \leq 0.01$ ).
- N Indicates a negative trend for all tests  
The Rao-Scott statistic performs the Poly-6 test with an adjustment for within-litter correlation.  
The Litter C-A/Fishers statistic compare directly the litter incidence rates.

\*\*\* END OF REPORT \*\*\*