Experimental Design and Materials and Methods in the Whole-Body Exposure Studies of GSM- and CDMA-Modulated Cell Phone RFR

28-Day Studies

2-Year Studies

Method of Euthanasia

Carbon dioxide asphyxiation

Necropsy

Necropsies were performed on all rats. Organs weighed were the right adrenal gland, brain, heart, right kidney, liver, lung, right testis, and thymus.

Clinical Pathology

None

Histopathology

Complete histopathology was performed on all 0 (sham control) and 9 W/kg groups. In addition to gross lesions and tissue masses, the following tissues were examined: adrenal gland, aorta, bone with marrow, brain, clitoral gland, epididymis, esophagus, eyes, Harderian gland, heart, large intestine (cecum, colon, rectum), small intestine (duodenum, jejunum, ileum), kidney, liver, lung, lymph nodes (mandibular and mesenteric), mammary gland, nose, ovary, pancreas, parathyroid gland, pituitary gland, preputial gland, prostate gland, salivary gland, seminal vesicle, skin, spleen, stomach (forestomach and glandular), testis, thymus, thyroid gland, trachea, urinary bladder, and uterus.

Sperm Motility and Count and Vaginal Cytology

Same as 28-day studies

Necropsies were performed on all rats. Organs weighed in 10 rats per exposure group at 14 weeks were the brain, heart, kidney (left and right), liver, lung, ovary (left and right), testis (left and right) with epididymis (left and right), and thymus

Blood was collected from the retroorbital sinus of 10 rats per group at 14 weeks for hematology and clinical chemistry. Hematology: hematocrit (auto and manual); hemoglobin concentration; erythrocyte, reticulocyte, nucleated erythrocyte, and platelet counts; mean cell volume; mean cell hemoglobin; mean cell hemoglobin concentration; and leukocyte count and differentials. Clinical chemistry: urea nitrogen, creatinine, glucose, total protein, albumin, cholesterol, triglycerides, alanine aminotransferase, alkaline phosphatase, creatine kinase, sorbitol dehydrogenase, and bile acid.

Complete histopathology was performed on $10\ F_1$ rats from each exposure group at 14 weeks, on all rats that died early, and on all rats surviving to the end of the studies. In addition to gross lesions and tissue masses, the following tissues were examined: adrenal gland, aorta, bone with marrow, brain, clitoral gland, esophagus, eyes, Harderian gland, heart, large intestine (cecum, colon, rectum), small intestine (duodenum, jejunum, ileum), kidney, liver, lung with bronchi, lymph nodes (mandibular and mesenteric), mammary gland, muscle, nerve (sciatic, trigeminal, and peripheral), nose, ovary, pancreas, parathyroid gland, pituitary gland, preputial gland, prostate gland, salivary gland, seminal vesicle, skin, spinal cord, spleen, stomach (forestomach and glandular), testis with epididymis, thymus, thyroid gland, trachea, urinary bladder, and uterus.

Spermatid and sperm samples were collected from 10 male rats in each group at 14 weeks. The following parameters were evaluated: spermatid heads per testis and per gram testis, sperm motility, and sperm per cauda epididymis and per gram cauda epididymis. The left cauda, left epididymis, and left testis were weighed. Vaginal samples were collected from 10 females in each group for 16 days prior to the 14-week interim evaluation.