

Information on Selected Male Pubertal Studies As Reported in Published Articles

Age at dosing onset (PND)	Length of dosing (days)	Day of kill (PND)	Method of kill	Strain of rat used	Type of feed used	Type of vehicle used	Litter Standardization		Method for Distributing Littermates to Treatment Groups	# hours between ...		Animals Held overnight prior to necropsy?
							Method	Standardized Litter Size		Light-on and dosing	Last dose and kill	
Ashby J, and Lefevre PA. (2000) The peripubertal male rat assay as an alternative to the Hershberger castrated male rat assay for the detection of anti-androgens, oestrogens and metabolic modulators. <i>J Appl Toxicol.</i> 20(1):35-47.												
1. 22-23 2. 35-36 3. 22-23	1. 14 2. 14 or 20 3. 34 or 14+20 days recovery.	37, 50, 56, 57	Anaesthetic (Fluothane) followed by cervical dislocation.	Alpk:APfSD	Weaned on Rat and Mouse (R&M) No. 3; Maintained on R&M No.1	Hydroxypropyl methoxycellulose (HPMC)	NR	NR	Randomized so each group had approx. equal initial body weight mean and range.	NR	1, 2: 24 hours 3: 20 days	NR
Blystone, CR, Furr, J, Lambright, CS, Howdeshell, KL, Ryan, BC, Wilson, VS, LeBlanc, GA, and Gray, LE Jr. (2007) Prochloraz inhibits testosterone production at dosages below those that affect androgen-dependent organ weights or the onset of puberty in the male Sprague Dawley rat. <i>Toxicol Sci.</i> 97(1):65-74.												
23	1. 19-20 2. 27-28 3. 19-20	1. 42-43 2. 50-51 3. 42-43	NR	Sprague Dawley	Purina Laboratory Rat Chow (5001)	Corn oil	NR	NR	Randomized so each group had approx equal mean body weights & variances	NR	1.5 to 6 hours	NR
Grote K, Stahlschmidt B, Talsness CE, Gericke C, Appel KE, and Chahoud I. (2004) Effects of organotin compounds on pubertal male rats. <i>Toxicology.</i> 202(3):145-158.												
23	30	53	Decapitation	Wistar (HsdCpb:WU)	Altronmin 1324	Peanut oil	NR	NR	Randomized so each group had approx equal mean body weights & variances	NR	NR	No

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							Method	Standardized Litter Size		Light-on and dosing	Last dose and kill	
Marty MS, Crissman JW, and Carney EW. (2001) Evaluation of the male pubertal assay's ability to detect thyroid inhibitors and dopaminergic agents. <i>Toxicol Sci.</i> 60(1):63-76.												
21	30	51	Anesthetic (methoxyflurane) and decapitated	CD® (Sprague-Dawley derived)	Purina Laboratory Rodent Chow (5002)	0.5% Methocel® A4M	Cross-fostering to reach the required number of male pups per litter. Cross-fostered pups from the same litter were not placed in multiple study litters in order to control for litter effects at the time of randomization into treatment groups.	<u>1st series of experiments:</u> 10 litters, each containing 6 pups per sex. <u>2nd series of experiments:</u> 11 litters each containing 10 male pups	Randomized such that each group had approximately equal body weight mean and variance. Blocked by litter to ensure littermates were not assigned to the same treatment group.	NR	Approx. 24 hours (following morning)	NR

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							Method	Standardized Litter Size		Light-on and dosing	Last dose and kill	
Marty MS, Crissman JW, and Carney EW. (2001) Evaluation of the male pubertal onset assay to detect testosterone and steroid biosynthesis inhibitors in CD rats. <i>Toxicol Sci.</i> 60(2):285-295.												
21	30	51	Anesthetic (methoxyflurane)	CD® (Sprague-Dawley-derived)	Not specified. Assumed to be Purina Laboratory Rodent Chow (5002)	0.5% Methocel	Cross-fostering to reach the required number of male pups per litter. Cross-fostered pups from the same litter were not placed in multiple study litters in order to control for litter effects at the time of randomization into treatment groups.	<u>1st series of experiments:</u> 10 litters, each containing 6 pups per sex. <u>2nd series of experiments:</u> 11 litters each containing 10 male pups	Randomized such that each group had approximately equal mean body weights and variances. Blocked by litter to ensure littermates were not assigned to the same treatment group. Ten males per treatment group.	NR	Approximately 24 hours	NR
Marty MS, Johnson KA, and Carney EW. (2003) Effect of feed restriction on Hershberger and pubertal male assay endpoints. <i>Birth Defects Res Part B Dev Reprod Toxicol.</i> 68(4):363-374.												
23	Varied	45, 49, 52, 56, or 59	CO inhalation	CD	Purina Certified Rodent Lab Diet (5002)	Corn oil at .75 mg/kg	12 litters of rats along with 12 lactating dams were purchased. To control for litter bias, pups were not cross-fostered into multiple litters.	NR	Randomized such that each group had approx. equal mean body weights and variances.	NR	NR	NR
Romualdo GS, and Klinefelter GR, de K. (2002) Postweaning exposure to gossypol results in epididymis-specific effects throughout puberty and adulthood in rats. <i>J Androl.</i> 23(2):220-228.												
21	30	51	Decapitation	Wistar	Unspecified lab chow	Sunflower oil	NR	NR	NA	NR	NR (assumed within 24 hours)	NR

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							Method	Standardized Litter Size		Light-on and dosing	Last dose and kill	
Shin JH, Kim HS, Moon HJ, Kang H, Kim TS, Seok JH et al. (2002) Effects of flutamide on puberty in male rats: an evaluation of the protocol for the assessment of pubertal development and thyroid function. <i>J Toxicol Environ Health A</i> . 65(5-6):433-445.												
33	20	54	Ether anesthesia	Sprague-Dawley	Chinchon rodent diet	Corn oil (5 mL/kg)	NR	NR	Randomized (rats weighing 134-147 g)	NA	24 hours	No
Stoker TE, Laws SC, Guidici DL, and Cooper RL. (2000) The effect of atrazine on puberty in male wistar rats: an evaluation in the protocol for the assessment of pubertal development and thyroid function. <i>Toxicol Sci</i> . 58(1):50-59.												
23	30-31	53-54	Decapitation	Wistar	Purina Laboratory Rat Chow (5001)	Methyl cellulose	Culled on PND 3	8-10 per litter	Males randomized such that treatment groups had similar body weight means & variances	NA	NA	No
Stoker TE, Guidici DL, Laws SC, and Cooper RL. (2002) The effects of atrazine metabolites on puberty and thyroid function in the male Wistar rat. <i>Toxicol Sci</i> . 67(2):198-206.												
23	30-31	53-54	Decapitation	Wistar	Purina Laboratory Rat Chow (5001)	Methyl cellulose	Culled on PND 3	8-10 per litter	Males randomized such that treatment groups had similar body weight means & variances; litter-mates equally among groups	3-4 hours	NR	No
Stoker TE, Laws SC, Crofton KM, Hedge JM, Ferrell JM, and Cooper RL. (2004) Assessment of DE-71, a commercial polybrominated diphenyl ether (PBDE) mixture, in the EDSP male and female pubertal protocols. <i>Toxicol Sci</i> . 78(1):144-155.												
23 (male); 22 (female)	31 (male); 20 (female)	53 (male); 41 (female)	Decapitation	Wistar	Purina Laboratory Rat Chow (5001)	Corn oil	Culled on PND 3	8-10 per litter	Randomized such that treatment groups had similar body weight means & variances; litter-mates equally among groups	NR	2 hours	No

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							Method	Standardized Litter Size		Light-on and dosing	Last dose and kill	
Stoker TE, Cooper RL, Lambright CS, Wilson VS, Furr J, and Gray LE. (2005) In vivo and in vitro anti-androgenic effects of DE-71, a commercial polybrominated diphenyl ether (PBDE) mixture. <i>Toxicol Appl Pharmacol.</i> 207(1):78-88.												
23	31	53	Decapitation	Wistar	Purina Laboratory Rat Chow (5001)	Corn oil	Culled on PND 3	8-10 per litter	Randomly assigned based on body weight & litter	NR	2 hours	No
Stoker TE, Ferrell JM, Laws SC, Cooper RL, and Buckalew A. (2006) Evaluation of ammonium perchlorate in the endocrine disruptor screening and testing program's male pubertal protocol: ability to detect effects on thyroid endpoints. <i>Toxicology.</i> 228(1):58-65.												
23	31	53	Decapitation	Wistar	Purina Laboratory Rat Chow (5001)	Corn oil	Culled on PND 3	8-10 per litter	Randomly assigned based on body weight & litter	0-1 hour	2 hours	No
Tan BL, Kassim NM, and Mohd MA. (2003) Assessment of pubertal development in juvenile male rats after sub-acute exposure to bisphenol A and nonylphenol. <i>Toxicol Lett.</i> 143(3):261-270.												
23	30	52-53	Decapitation	Sprague-Dawley	Gold Coin soy-free rat chow	Corn oil for nonylphenol; Tween -80 in distilled water for bisphenol A	NR	NR	NR	2 hours	NR	No
Trentacoste SV, Friedmann AS, Youker RT, Breckenridge CB, and Zirkin BR. (2001) Atrazine effects on testosterone levels and androgen-dependent reproductive organs in peripubertal male rats. <i>J Androl.</i> 22(1):142-148.												
22	25	47	Decapitation	Sprague-Dawley	NR	CMC	NR	NR	NR	NR	24 hours	No
Yamasaki K, Tago Y, Nagai K, Sawaki M, Noda S, and Takatsuki M. (2002) Comparison of toxicity studies based on the draft protocol for the 'Enhanced OECD Test Guideline no. 407' and the research protocol of 'Pubertal Development and Thyroid Function in Immature Male Rats' with 6-n-propyl-2-thiouracil. <i>Arch Toxicol.</i> 76(9):495-501.												
23	30	53	Exsanguination under ether anesthesia	Crj:Cd (SD) IGS	MF; Oriental Yeast Co	Corn oil	NR	NR	Weight-ranked and randomly assigned	NR	Within 24 hours	NR
Yu WJ, Lee BJ, Nam SY, Ahn B, Hong JT, Do JC et al. (2004) Reproductive disorders in pubertal and adult phase of the male rats exposed to vinclozolin during puberty. <i>J Vet Med Sci.</i> 66(7):847-853.												
35	10	45	Exsanguination under ether anesthesia	Sprague-Dawley Bgi-Crj:CD (SD)IGS BR	Samyang chow	Corn oil	NR	NR	Stratified randomization	NR	24 hours	No

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