**ScienceHub Dataset for ScID: A-73ng**

**Table 1.** Effects of in utero exposure to 18 chemical mixture of anti-androgens on male reproductive tissues in Sprague Dawley rats exposed from GD14-18.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Control** | **6.25%** | **12.5%** | **25%** | **50%** | **100%** |
| Number of fetuses at necropsy (individuals, litters) | 30, 10 | 20, 7 | 17, 6 | 18, 6 | 27, 9 | 18, 6 |
| Fetal T prod (ng mL-1)a | 9.42 ± 1.00 | 9.25 ± 0.90 | 8.49 ± 0.87 | 8.76 ± 0.49 | **4.89 ± 0.80** | **2.69 ± 0.37** |
| Number of pups at PND2 (individuals, litters) | 36, 5 | 30, 5 | 35, 5 | 31, 5 | 30, 5 | 37, 5 |
| AGD (mm) on PND2 | 3.48 ± 0.15 | 3.23 ± 0.11 | **3.15 ± 0.06** | **3.06 ± 0.05** | 3.25 ± 0.09 | **2.50 ± 0.08** |
| Number of pups at PND13 (individuals, litters) | 35, 5 | 29, 5 | 35, 5 | 28, 5 | 30, 5 | 36, 5 |
| Number of retained nipples | 0.025 ± 0.025 | 0.43 ± 0.43 | 0.94 ± 0.34 | **2.2 ± 0.8** | **2.2 ± 0.6** | **9.2 ± 0.7** |
| % of litter with retained nipples | 2.5 ± 2.5 | 15.0 ± 15.0 | **35.8 ± 0.1** | **54.4 ± 15.2** | **71.3 ± 14.4** | **100 ± 0** |
| % max retained nipples | 0.21 ± 0.21 | 3.5 ± 3.5 | 7.9 ± 2.8 | **18.2 ± 7.0** | **18.4 ± 4.7** | **76.5 ± 5.7** |
| Number of pups at puberty (individuals, litters) | 35, 5 | 27, 5 | 34, 5 | 26, 5 | 30, 5 | 34, 5 |
| Days to puberty | 43.4 ± 0.3 | 44.4 ± 0.8 | 44.8 ± 0.9 | 44.8 ± 0.7 | 44.3 ± 0.5 | **47.0 ± 0.6** |
| Number of males at necropsy (individuals,litters) | 35, 5 | 26, 5 | 34, 5 | 26, 5 | 30, 5 | 34, 5 |
| Body wt (g) | 704.0 ± 16.3 | 712.7 ± 30.9 | 677.3 ± 21.4 | 672.6 ± 14.5 | 657.9 ± 12.7 | 661.4 ± 19.2 |
| Glans penis wt (mg) | 128.1 ± 1.7 | 124.3 ± 1.8 | **119.9 ± 2.4** | 124.7 ± 3.9 | 126.2 ± 1.2 | **110.1 ± 2.2** |
| Seminal vesicle wt (mg) | 2021.3 ± 67.8 | 1879.5 ± 93.5 | 1897.0 ± 56.2 | **1809.7 ± 56.1** | **1735.2 ± 62.8** | **1695.9 ± 24.3** |
| Ventral prostate wt (mg) | 766.9 ± 35.5 | 656.9 ± 53.9 | 683.3 ± 31.3 | 687.4 ± 63.6 | 702.3 ± 47.9 | **519.2 ± 44.9** |
| Paired testes wt (mg) | 3994.9 ± 147.5 | **3628.7 ± 40.4** | 3786.4 ± 79.2 | **3621.9 ± 136.5** | 3816.3 ± 95.5 | **3626.6 ± 71.3** |
| Paired epis wt (mg) | 1474.1 ± 52.7 | **1361.5 ± 46.2** | 1391.8 ± 37.3 | **1316.3 ± 36.5** | 1397.9 ± 16.8 | **1260.1 ± 32.5** |
| LABC wt (mg) | 1623.7 ± 58.2 | **1378.6 ± 56.2** | **1434.7 ± 40.3** | **1464.1 ± 14.0** | **1417.7 ± 52.0** | **1041.8 ± 68.0** |
| Cowpers wt (mg) | 198.9 ± 17.0 | 184.3 ± 7.5 | 197.4 ± 15.3 | 173.0 ± 6.9 | 206.1 ± 24.5 | 167.7 ± 7.9 |
| Adult w/nips (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | **15.3 ± 7.2** | **13.3 ± 6.3** | **97.1 ± 2.9** |
| % max adult nips | 0 ± 0 | 0 ± 0 | 0 ± 0 | 4.2 ± 2.0 | 3.6 ± 1.8 | **42.6 ± 3.4** |
| Hypospadias (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | **47.1 ± 8.7** |
| Epi agenesis (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | **5.9 ± 4.1** |
| Testis malfs (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | 3.8 ± 3.8 | 0 ± 0 | **11.8 ± 5.6** |
| Undescended testis (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | 2.9 ± 2.9 |
| Seminal vesicle agenesis (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | 2.9 ± 2.9 |
| Ventral prostate agenesis (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | 0 ± 0 | 2.9 ± 2.9 |
| Gubernacular malformations (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | **3.8 ± 3.8** | 0 ± 0 | 0 ± 0 |
| Malfs w/nips (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | **19.2 ± 7.9** | **13.3 ± 6.3** | **971. ± 2.9** |
| Malfs no nips (%) | 0 ± 0 | 0 ± 0 | 0 ± 0 | 3.8 ± 3.8 | 0 ± 0 | **64.7 ± 8.3** |
| All repro tract effects (%) | 0 ± 0 | 0 ± 0 | 2.9 ± 2.9 | **19.2 ± 7.9** | **13.3 ± 6.3** | **97.1 ± 2.9** |

aconcentration of ex vivo tissue media following 3 h incubation

**Table 2.** Fold induction of genes from custom gene expression array from fetal rat testes collected at GD18 following oral mixture exposure to the dam from GD14-18. Sample size (N) represents the number of dosed dams with fetal testes pooled across pups from a given dam.

|  |  |  |  |
| --- | --- | --- | --- |
| Dose=vehicle control | Mean fold | Std Error | N |
| FWt1 | 1 | 0.043518 | 7 |
| FNr5a1 | 1 | 0.0315938 | 7 |
| FLhx9 | 1 | 0.0461188 | 7 |
| FGata4 | 1 | 0.0266963 | 7 |
| FEmx2 | 1 | 0.0459633 | 7 |
| FLhx1 | 0.9999997 | 0.081934 | 7 |
| FCbx2 | 1 | 0.0330161 | 7 |
| FDmrt1 | 1 | 0.0661452 | 7 |
| FDmrt2 | 1.0000001 | 0.1623892 | 7 |
| FSry | 1 | 0.0869746 | 7 |
| FSox9 | 1 | 0.0369957 | 7 |
| FZfpm2 | 1 | 0.0458552 | 7 |
| FNr0b1 | 1 | 0.0534356 | 7 |
| FSox8 | 1 | 0.025111 | 7 |
| FAmhr2 | 1 | 0.0238211 | 7 |
| FRhox5 | 1 | 0.015703 | 7 |
| FPtgds2 | 1 | 0.0603962 | 7 |
| FStar | 1 | 0.0729683 | 7 |
| FCyp11a1 | 1 | 0.0543645 | 7 |
| FCyp11b2 | 1.0000006 | 0.1046438 | 7 |
| FHsd3b | 1 | 0.0311934 | 7 |
| FCyp17a1 | 1 | 0.0538641 | 7 |
| FHsd17b3 | 1 | 0.0407394 | 7 |
| FLhcgr | 1 | 0.0755417 | 7 |
| FScarb1 | 1 | 0.0330657 | 7 |
| FMapk3 | 1 | 0.0317806 | 7 |
| FInsl3 | 1 | 0.0417384 | 7 |
| FDhcr7 | 1 | 0.0173633 | 7 |
| FTspo | 1 | 0.0852119 | 7 |
| FCyp11b1 | 1 | 0.1669909 | 7 |
| FDhh | 1 | 0.0372389 | 7 |
| FPdgfa | 0.9999999 | 0.0243502 | 7 |
| FFgf9 | 1 | 0.022479 | 7 |
| FFgf8 | 1.0000001 | 0.0744004 | 7 |
| FPtch1 | 1 | 0.0478541 | 7 |
| FPdgfra | 1 | 0.0754062 | 7 |
| FLOC691504 | 1.0000036 | 0.1255753 | 7 |
| FSmo | 1 | 0.015703 | 7 |
| FTgfb1 | 1 | 0.0221884 | 7 |
| FRhox10 | 1 | 0.0485477 | 7 |
| FHoxa2 | 1.0000007 | 0.1305979 | 7 |
| FWnt7a | 0.9999988 | 0.0954395 | 7 |
| FNtf3 | 0.9999999 | 0.0512409 | 7 |
| FNtrk3 | 0.9999998 | 0.1348132 | 7 |
| FInhbb | 1 | 0.0170876 | 7 |
| FInha | 1 | 0.0519717 | 7 |
| FAcvr2b | 1 | 0.0552423 | 7 |
| FInhba | 1 | 0.0373651 | 7 |
| FSfrp1 | 1 | 0.030392 | 7 |
| FSfrp2 | 1.0000001 | 0.0404499 | 7 |
| FSfrp4 | 1 | 0.153425 | 7 |
| FSfrp5 | 1 | 0.1430218 | 7 |
| FPcaf | 1 | 0.060515 | 7 |
| FAxin1 | 1 | 0.0308196 | 7 |
| FAxin2 | 1 | 0.0552166 | 7 |
| FDixdc1 | 1 | 0.0532501 | 7 |
| FDvl1 | 1 | 0.0406389 | 7 |
| FDvl2 | 1 | 0.0597483 | 7 |
| FDvl3 | 1 | 0.035082 | 7 |
| FTle1 | 1 | 0.0479648 | 7 |
| FTle2 | 1 | 0.035709 | 7 |
| FDkk3 | 1 | 0.0361255 | 7 |
| FDkk1 | 1.0000005 | 0.0976712 | 7 |
| FRGD1563046 | 0.9999999 | 0.0510629 | 7 |
| FSra1 | 1 | 0.0423843 | 7 |
| FAr | 1 | 0.054532 | 7 |
| FEsr1 | 1 | 0.0358465 | 7 |
| FEsr2 | 1 | 0.0378293 | 7 |
| FVdr | 0.9999999 | 0.0766015 | 7 |
| FNr4a2 | 1 | 0.0408024 | 7 |
| FNr1d1 | 1 | 0.0381414 | 7 |
| FNr3c2 | 0.9999999 | 0.074051 | 7 |
| FNr3c1 | 1 | 0.0345499 | 7 |
| FPparg | 0.9999937 | 0.2407874 | 7 |
| FPpard | 1 | 0.0397439 | 7 |
| FPpara | 1 | 0.0261397 | 7 |
| FRxra | 1 | 0.0176509 | 7 |
| FRxrb | 1 | 0.0216994 | 7 |
| FRxrg | 1.0000009 | 0.0820353 | 7 |
| FRara | 1 | 0.0350648 | 7 |
| FRarb | 1 | 0.0507294 | 7 |
| FRarg\_mapped | 1 | 0.0502817 | 7 |
| FAcox1 | 1 | 0.0346134 | 7 |
| FCyp4a1 | 0.9999946 | 0.2775709 | 7 |
| FFabp1 | 1.0000017 | 0.1089031 | 7 |
| FApoa1 | 0.9999997 | 0.0833047 | 7 |
| FAdh1 | 1.0000002 | 0.1118305 | 7 |
| FAldh1a1 | 1 | 0.0360035 | 7 |
| FPou5f1 | 1 | 0.0615611 | 7 |
| FActb | 1 | 0.0683655 | 7 |
| FB2m | 1 | 0.0366662 | 7 |
| FGusb | 1 | 0.0560485 | 7 |
| FLdha | 1 | 0.0970241 | 7 |
| FRGDC | 0.9999979 | 0.2933484 | 7 |
| FRTC | 1 | 0.0404115 | 7 |
| FPPC | 1 | 0.1305385 | 7 |
| Dose=6.25% of top | Mean fold | Std Error | N |
| FWt1 | 1.0403387 | 0.0512211 | 5 |
| FNr5a1 | 1.0343583 | 0.0721911 | 5 |
| FLhx9 | 0.9575206 | 0.0716945 | 5 |
| FGata4 | 1.0349982 | 0.0705143 | 5 |
| FEmx2 | 0.9842828 | 0.0834082 | 5 |
| FLhx1 | 1.1357908 | 0.1817002 | 5 |
| FCbx2 | 1.0290187 | 0.0191035 | 5 |
| FDmrt1 | 0.9299486 | 0.0602819 | 5 |
| FDmrt2 | 0.7340695 | 0.2110878 | 5 |
| FSry | 0.9000131 | 0.0636256 | 5 |
| FSox9 | 0.9898316 | 0.081233 | 5 |
| FZfpm2 | 0.9651976 | 0.0583994 | 5 |
| FNr0b1 | 1.0660471 | 0.051993 | 5 |
| FSox8 | 1.0438929 | 0.0459791 | 5 |
| FAmhr2 | 1.1429071 | 0.0965107 | 5 |
| FRhox5 | 1.1118575 | 0.0819552 | 5 |
| FPtgds2 | 0.8369594 | 0.0882119 | 5 |
| FStar | 1.0936594 | 0.1133023 | 5 |
| FCyp11a1 | 1.0125075 | 0.049054 | 5 |
| FCyp11b2 | 0.7802591 | 0.114521 | 5 |
| FHsd3b | 0.9257744 | 0.0640492 | 5 |
| FCyp17a1 | 1.0350405 | 0.0737515 | 5 |
| FHsd17b3 | 1.0079034 | 0.0465181 | 5 |
| FLhcgr | 0.9607183 | 0.1050743 | 5 |
| FScarb1 | 1.132591 | 0.1490919 | 5 |
| FMapk3 | 1.0786196 | 0.0754717 | 5 |
| FInsl3 | 0.9772601 | 0.0900779 | 5 |
| FDhcr7 | 0.9789433 | 0.0615849 | 5 |
| FTspo | 0.8854047 | 0.0440844 | 5 |
| FCyp11b1 | 1.0267524 | 0.199234 | 5 |
| FDhh | 1.1361599 | 0.0749807 | 5 |
| FPdgfa | 1.0781886 | 0.0818076 | 5 |
| FFgf9 | 0.9783855 | 0.0763283 | 5 |
| FFgf8 | 0.8262047 | 0.0510386 | 5 |
| FPtch1 | 1.1556659 | 0.1419879 | 5 |
| FPdgfra | 1.0870724 | 0.1094322 | 5 |
| FLOC691504 | 0.7996644 | 0.1704293 | 5 |
| FSmo | 1.0123174 | 0.0831466 | 5 |
| FTgfb1 | 1.0611163 | 0.0720032 | 5 |
| FRhox10 | 0.9201814 | 0.0883134 | 5 |
| FHoxa2 | 0.9510451 | 0.1527433 | 5 |
| FWnt7a | 1.3795565 | 0.3343505 | 5 |
| FNtf3 | 1.105049 | 0.1147851 | 5 |
| FNtrk3 | 1.2513069 | 0.1394025 | 5 |
| FInhbb | 1.0754221 | 0.0742666 | 5 |
| FInha | 0.9444582 | 0.0563437 | 5 |
| FAcvr2b | 0.9542864 | 0.0925135 | 5 |
| FInhba | 0.9589465 | 0.0918055 | 5 |
| FSfrp1 | 0.9900311 | 0.1503979 | 5 |
| FSfrp2 | 1.1669469 | 0.0938345 | 5 |
| FSfrp4 | 0.8427003 | 0.0373162 | 5 |
| FSfrp5 | 0.6587347 | 0.122578 | 5 |
| FPcaf | 0.9016555 | 0.0630618 | 5 |
| FAxin1 | 1.0179819 | 0.0360711 | 5 |
| FAxin2 | 0.9866451 | 0.0614404 | 5 |
| FDixdc1 | 0.9842609 | 0.0414132 | 5 |
| FDvl1 | 1.1194211 | 0.0473147 | 5 |
| FDvl2 | 0.8708995 | 0.0335831 | 5 |
| FDvl3 | 1.1297206 | 0.1039818 | 5 |
| FTle1 | 0.9090741 | 0.0458108 | 5 |
| FTle2 | 0.9699666 | 0.1274268 | 5 |
| FDkk3 | 1.2565841 | 0.1134161 | 5 |
| FDkk1 | 0.8655752 | 0.1485655 | 5 |
| FRGD1563046 | 0.9969436 | 0.105358 | 5 |
| FSra1 | 1.0645558 | 0.0839475 | 5 |
| FAr | 1.0601569 | 0.0522916 | 5 |
| FEsr1 | 1.0813195 | 0.0773453 | 5 |
| FEsr2 | 1.1217251 | 0.0832621 | 5 |
| FVdr | 1.1011085 | 0.1074253 | 5 |
| FNr4a2 | 1.0786444 | 0.0816796 | 5 |
| FNr1d1 | 1.1112566 | 0.0510373 | 5 |
| FNr3c2 | 0.932329 | 0.0712938 | 5 |
| FNr3c1 | 0.8771632 | 0.0344887 | 5 |
| FPparg | 1.027447 | 0.3740154 | 5 |
| FPpard | 1.0137089 | 0.0263852 | 5 |
| FPpara | 1.0015821 | 0.0449457 | 5 |
| FRxra | 1.0444464 | 0.0411632 | 5 |
| FRxrb | 1.0328433 | 0.0761697 | 5 |
| FRxrg | 0.8035255 | 0.0853055 | 5 |
| FRara | 0.9270032 | 0.0358809 | 5 |
| FRarb | 1.0955971 | 0.0513891 | 5 |
| FRarg\_mapped | 0.9273888 | 0.0419758 | 5 |
| FAcox1 | 1.0091453 | 0.0497383 | 5 |
| FCyp4a1 | 1.7605351 | 0.747241 | 5 |
| FFabp1 | 1.3853 | 0.7920011 | 5 |
| FApoa1 | 2.0119829 | 0.9807856 | 5 |
| FAdh1 | 1.1317866 | 0.1227121 | 5 |
| FAldh1a1 | 1.1108075 | 0.1248422 | 5 |
| FPou5f1 | 0.943404 | 0.0974723 | 5 |
| FActb | 1.1555243 | 0.0773075 | 5 |
| FB2m | 1.2494459 | 0.0662213 | 5 |
| FGusb | 1.0077418 | 0.2003479 | 5 |
| FLdha | 0.9347957 | 0.0780371 | 5 |
| FRGDC | 0.6681922 | 0.2462067 | 5 |
| FRTC | 1.0451574 | 0.0793854 | 5 |
| FPPC | 0.8184345 | 0.1044821 | 5 |
| Dose=12.5 % of top | Mean fold | Std Error | N |
| FWt1 | 1.0893898 | 0.062495 | 6 |
| FNr5a1 | 1.0386846 | 0.0553034 | 6 |
| FLhx9 | 1.1558589 | 0.0919202 | 6 |
| FGata4 | 1.0925162 | 0.0705476 | 6 |
| FEmx2 | 1.0239991 | 0.0609624 | 6 |
| FLhx1 | 1.2660546 | 0.1940542 | 6 |
| FCbx2 | 0.8506805 | 0.0729527 | 6 |
| FDmrt1 | 0.8166416 | 0.0512935 | 6 |
| FDmrt2 | 0.5953235 | 0.1718728 | 6 |
| FSry | 0.9961314 | 0.0785173 | 6 |
| FSox9 | 1.0052533 | 0.0773705 | 6 |
| FZfpm2 | 1.0667627 | 0.091647 | 6 |
| FNr0b1 | 1.0816793 | 0.1040016 | 6 |
| FSox8 | 1.0027327 | 0.0641495 | 6 |
| FAmhr2 | 1.1562591 | 0.0812596 | 6 |
| FRhox5 | 1.0124279 | 0.0296651 | 6 |
| FPtgds2 | 1.0846721 | 0.0677961 | 6 |
| FStar | 0.83612 | 0.0192223 | 6 |
| FCyp11a1 | 0.916636 | 0.0420378 | 6 |
| FCyp11b2 | 1.1057964 | 0.1429459 | 6 |
| FHsd3b | 0.8225961 | 0.048521 | 6 |
| FCyp17a1 | 0.9992061 | 0.0400244 | 6 |
| FHsd17b3 | 1.0181483 | 0.0092991 | 6 |
| FLhcgr | 1.0769358 | 0.076991 | 6 |
| FScarb1 | 0.9817332 | 0.0414865 | 6 |
| FMapk3 | 0.9878932 | 0.0332316 | 6 |
| FInsl3 | 0.9673656 | 0.0789615 | 6 |
| FDhcr7 | 0.8483844 | 0.0422475 | 6 |
| FTspo | 0.931787 | 0.0458177 | 6 |
| FCyp11b1 | 0.8765852 | 0.1499952 | 6 |
| FDhh | 0.9627208 | 0.1095461 | 6 |
| FPdgfa | 0.965539 | 0.0579645 | 6 |
| FFgf9 | 0.9977715 | 0.0384202 | 6 |
| FFgf8 | 0.9840201 | 0.0940433 | 6 |
| FPtch1 | 1.1420791 | 0.1317891 | 6 |
| FPdgfra | 1.1161956 | 0.0554942 | 6 |
| FLOC691504 | 1.1720073 | 0.2365099 | 6 |
| FSmo | 0.9961808 | 0.1284629 | 6 |
| FTgfb1 | 0.9403577 | 0.0747656 | 6 |
| FRhox10 | 1.0138359 | 0.1162981 | 6 |
| FHoxa2 | 1.3298814 | 0.2582445 | 6 |
| FWnt7a | 1.5170265 | 0.4832037 | 6 |
| FNtf3 | 1.0820875 | 0.1229433 | 6 |
| FNtrk3 | 1.4929057 | 0.2011341 | 6 |
| FInhbb | 1.0200977 | 0.0504533 | 6 |
| FInha | 0.9689201 | 0.0664433 | 6 |
| FAcvr2b | 1.1050592 | 0.0713001 | 6 |
| FInhba | 0.9219505 | 0.0438638 | 6 |
| FSfrp1 | 1.1152 | 0.0673945 | 6 |
| FSfrp2 | 1.4215155 | 0.1249865 | 6 |
| FSfrp4 | 0.8609811 | 0.1964462 | 6 |
| FSfrp5 | 0.7222783 | 0.1193618 | 6 |
| FPcaf | 1.1209146 | 0.0471548 | 6 |
| FAxin1 | 0.949281 | 0.0564536 | 6 |
| FAxin2 | 0.9779355 | 0.0747792 | 6 |
| FDixdc1 | 0.9823673 | 0.0369414 | 6 |
| FDvl1 | 0.8821613 | 0.0726198 | 6 |
| FDvl2 | 1.113822 | 0.045974 | 6 |
| FDvl3 | 1.3068469 | 0.0672962 | 6 |
| FTle1 | 1.1253062 | 0.0417025 | 6 |
| FTle2 | 1.2157882 | 0.0458138 | 6 |
| FDkk3 | 1.2020348 | 0.0621494 | 6 |
| FDkk1 | 0.9990292 | 0.1656687 | 6 |
| FRGD1563046 | 0.9855731 | 0.082902 | 6 |
| FSra1 | 1.0702779 | 0.052979 | 6 |
| FAr | 1.0050683 | 0.0926493 | 6 |
| FEsr1 | 1.0443412 | 0.0514237 | 6 |
| FEsr2 | 1.1054943 | 0.1010352 | 6 |
| FVdr | 0.8521035 | 0.0872221 | 6 |
| FNr4a2 | 1.0600308 | 0.0967794 | 6 |
| FNr1d1 | 1.0947351 | 0.0400621 | 6 |
| FNr3c2 | 0.7960613 | 0.0592082 | 6 |
| FNr3c1 | 0.8460128 | 0.0821053 | 6 |
| FPparg | 1.4041784 | 0.3317527 | 6 |
| FPpard | 0.9078351 | 0.0294287 | 6 |
| FPpara | 1.0205069 | 0.0382295 | 6 |
| FRxra | 0.9737619 | 0.0684071 | 6 |
| FRxrb | 0.9735499 | 0.0873852 | 6 |
| FRxrg | 0.9455235 | 0.159733 | 6 |
| FRara | 0.9222868 | 0.0424812 | 6 |
| FRarb | 1.1570956 | 0.0987585 | 6 |
| FRarg\_mapped | 1.021851 | 0.0646777 | 6 |
| FAcox1 | 1.0362568 | 0.0334143 | 6 |
| FCyp4a1 | 0.6971034 | 0.1087369 | 6 |
| FFabp1 | 1.4925209 | 0.4953604 | 6 |
| FApoa1 | 0.9126084 | 0.1114214 | 6 |
| FAdh1 | 0.8940618 | 0.0756507 | 6 |
| FAldh1a1 | 0.9789113 | 0.1056087 | 6 |
| FPou5f1 | 1.033105 | 0.0737867 | 6 |
| FActb | 1.1695784 | 0.0815425 | 6 |
| FB2m | 1.2464283 | 0.1035902 | 6 |
| FGusb | 0.7948918 | 0.1818544 | 6 |
| FLdha | 0.6698357 | 0.0774942 | 6 |
| FRGDC | 0.7628149 | 0.3295161 | 6 |
| FRTC | 1.1367397 | 0.1277706 | 6 |
| FPPC | 0.8092817 | 0.1032129 | 6 |
| Dose=25% of top dose | Mean fold | Std Error | N |
| FWt1 | 0.9266104 | 0.025413 | 6 |
| FNr5a1 | 1.0384343 | 0.0229631 | 6 |
| FLhx9 | 0.9236221 | 0.0730946 | 6 |
| FGata4 | 1.0335233 | 0.0545124 | 6 |
| FEmx2 | 0.8610338 | 0.0651711 | 6 |
| FLhx1 | 1.4863819 | 0.1845478 | 6 |
| FCbx2 | 0.9314574 | 0.0161238 | 6 |
| FDmrt1 | 0.7798714 | 0.0624969 | 6 |
| FDmrt2 | 0.5362897 | 0.1341439 | 6 |
| FSry | 0.907324 | 0.1012697 | 6 |
| FSox9 | 1.0832035 | 0.0375905 | 6 |
| FZfpm2 | 1.05546 | 0.0124977 | 6 |
| FNr0b1 | 1.099064 | 0.0915754 | 6 |
| FSox8 | 1.0379451 | 0.1081164 | 6 |
| FAmhr2 | 1.09206 | 0.0939663 | 6 |
| FRhox5 | 1.0557991 | 0.0376925 | 6 |
| FPtgds2 | 0.9610827 | 0.1365799 | 6 |
| FStar | 0.8966914 | 0.0468867 | 6 |
| FCyp11a1 | 1.0145443 | 0.0566028 | 6 |
| FCyp11b2 | 0.9483174 | 0.1420485 | 6 |
| FHsd3b | 0.8951919 | 0.0406087 | 6 |
| FCyp17a1 | 0.9485984 | 0.034832 | 6 |
| FHsd17b3 | 1.0491276 | 0.0176868 | 6 |
| FLhcgr | 1.0632755 | 0.0909425 | 6 |
| FScarb1 | 1.0077443 | 0.0710711 | 6 |
| FMapk3 | 1.0174167 | 0.0324105 | 6 |
| FInsl3 | 0.9764278 | 0.0564082 | 6 |
| FDhcr7 | 0.9473935 | 0.048119 | 6 |
| FTspo | 0.9539909 | 0.0642421 | 6 |
| FCyp11b1 | 0.8575462 | 0.0761464 | 6 |
| FDhh | 1.2161769 | 0.1041329 | 6 |
| FPdgfa | 1.008393 | 0.0706175 | 6 |
| FFgf9 | 0.928369 | 0.0451008 | 6 |
| FFgf8 | 0.9087391 | 0.0804814 | 6 |
| FPtch1 | 1.1764443 | 0.067253 | 6 |
| FPdgfra | 1.0488837 | 0.0880066 | 6 |
| FLOC691504 | 0.8486575 | 0.1028575 | 6 |
| FSmo | 1.0088655 | 0.1004945 | 6 |
| FTgfb1 | 0.9527096 | 0.0196539 | 6 |
| FRhox10 | 1.0482803 | 0.076189 | 6 |
| FHoxa2 | 1.1490727 | 0.1021841 | 6 |
| FWnt7a | 1.6801458 | 0.320448 | 6 |
| FNtf3 | 1.1219488 | 0.1175759 | 6 |
| FNtrk3 | 1.0952343 | 0.1615318 | 6 |
| FInhbb | 1.1054284 | 0.0739535 | 6 |
| FInha | 0.8360842 | 0.0495107 | 6 |
| FAcvr2b | 0.9571736 | 0.0647268 | 6 |
| FInhba | 0.9834209 | 0.0804923 | 6 |
| FSfrp1 | 1.0259827 | 0.0723031 | 6 |
| FSfrp2 | 1.021412 | 0.0457932 | 6 |
| FSfrp4 | 0.9166722 | 0.1717758 | 6 |
| FSfrp5 | 0.5456973 | 0.0790098 | 6 |
| FPcaf | 0.9194208 | 0.0511855 | 6 |
| FAxin1 | 1.0778514 | 0.0334977 | 6 |
| FAxin2 | 1.0027028 | 0.0575003 | 6 |
| FDixdc1 | 0.9660309 | 0.0365932 | 6 |
| FDvl1 | 0.9579903 | 0.0621104 | 6 |
| FDvl2 | 0.9992525 | 0.043027 | 6 |
| FDvl3 | 1.0979568 | 0.0682349 | 6 |
| FTle1 | 0.9521435 | 0.0705304 | 6 |
| FTle2 | 1.0467401 | 0.0641996 | 6 |
| FDkk3 | 1.1427112 | 0.0622393 | 6 |
| FDkk1 | 1.1773662 | 0.2685363 | 6 |
| FRGD1563046 | 0.8679592 | 0.0656017 | 6 |
| FSra1 | 1.014998 | 0.0468141 | 6 |
| FAr | 1.1179624 | 0.0653497 | 6 |
| FEsr1 | 1.2604752 | 0.094492 | 6 |
| FEsr2 | 1.5328121 | 0.1434704 | 6 |
| FVdr | 0.8590768 | 0.1059393 | 6 |
| FNr4a2 | 1.051822 | 0.0515954 | 6 |
| FNr1d1 | 1.1954687 | 0.0474284 | 6 |
| FNr3c2 | 0.9284401 | 0.1136998 | 6 |
| FNr3c1 | 0.8952277 | 0.0338972 | 6 |
| FPparg | 1.0649068 | 0.2593493 | 6 |
| FPpard | 0.9698878 | 0.0419622 | 6 |
| FPpara | 1.0883082 | 0.0426887 | 6 |
| FRxra | 0.9947931 | 0.0475604 | 6 |
| FRxrb | 1.1104263 | 0.0597149 | 6 |
| FRxrg | 0.9415435 | 0.098538 | 6 |
| FRara | 0.9354878 | 0.0226359 | 6 |
| FRarb | 1.1537905 | 0.0697195 | 6 |
| FRarg\_mapped | 0.9918044 | 0.0588206 | 6 |
| FAcox1 | 0.9955936 | 0.0308788 | 6 |
| FCyp4a1 | 1.0389671 | 0.3494638 | 6 |
| FFabp1 | 1.9000751 | 0.5606726 | 6 |
| FApoa1 | 1.0100782 | 0.1694602 | 6 |
| FAdh1 | 1.2955692 | 0.1950763 | 6 |
| FAldh1a1 | 1.0923904 | 0.0768916 | 6 |
| FPou5f1 | 0.9082679 | 0.1043991 | 6 |
| FActb | 1.0196664 | 0.0886714 | 6 |
| FB2m | 0.9318273 | 0.0908259 | 6 |
| FGusb | 0.8377036 | 0.192441 | 6 |
| FLdha | 0.8092435 | 0.0838045 | 6 |
| FRGDC | 0.6488934 | 0.2271777 | 6 |
| FRTC | 1.5031235 | 0.2690126 | 6 |
| FPPC | 1.0005226 | 0.1221764 | 6 |
| Dose=50% of top dose | Mean fold | Std Error | N |
| FWt1 | 1.1207367 | 0.0469505 | 5 |
| FNr5a1 | 0.9054391 | 0.0606078 | 5 |
| FLhx9 | 1.0203064 | 0.0766182 | 5 |
| FGata4 | 1.1578608 | 0.0501819 | 5 |
| FEmx2 | 1.0506513 | 0.0818615 | 5 |
| FLhx1 | 1.4291722 | 0.1062272 | 5 |
| FCbx2 | 0.8666093 | 0.0652635 | 5 |
| FDmrt1 | 0.785975 | 0.0818642 | 5 |
| FDmrt2 | 0.6081476 | 0.1742147 | 5 |
| FSry | 0.9875484 | 0.0825026 | 5 |
| FSox9 | 1.1433112 | 0.0265422 | 5 |
| FZfpm2 | 1.0058506 | 0.0934058 | 5 |
| FNr0b1 | 0.8749571 | 0.0963566 | 5 |
| FSox8 | 1.0823872 | 0.0622779 | 5 |
| FAmhr2 | 1.1167259 | 0.0651808 | 5 |
| FRhox5 | 1.2312077 | 0.1441117 | 5 |
| FPtgds2 | 0.9585819 | 0.0933817 | 5 |
| FStar | 0.6394208 | 0.0280731 | 5 |
| FCyp11a1 | 0.8315291 | 0.0385204 | 5 |
| FCyp11b2 | 0.5287274 | 0.0644129 | 5 |
| FHsd3b | 0.689104 | 0.0281764 | 5 |
| FCyp17a1 | 0.7546655 | 0.0430238 | 5 |
| FHsd17b3 | 1.1898915 | 0.0696015 | 5 |
| FLhcgr | 0.7677226 | 0.0806492 | 5 |
| FScarb1 | 0.6822534 | 0.0375863 | 5 |
| FMapk3 | 1.0774639 | 0.0597437 | 5 |
| FInsl3 | 1.002669 | 0.1001863 | 5 |
| FDhcr7 | 0.9337218 | 0.0705909 | 5 |
| FTspo | 0.8877445 | 0.0661984 | 5 |
| FCyp11b1 | 0.4545691 | 0.0642203 | 5 |
| FDhh | 1.0777255 | 0.0563053 | 5 |
| FPdgfa | 0.9310044 | 0.0511881 | 5 |
| FFgf9 | 1.0566087 | 0.0635856 | 5 |
| FFgf8 | 1.169382 | 0.1370772 | 5 |
| FPtch1 | 1.2874356 | 0.1503494 | 5 |
| FPdgfra | 1.1171506 | 0.0939571 | 5 |
| FLOC691504 | 1.7165425 | 0.1929783 | 5 |
| FSmo | 1.0328098 | 0.1626049 | 5 |
| FTgfb1 | 1.0813989 | 0.0372813 | 5 |
| FRhox10 | 1.1132541 | 0.1313897 | 5 |
| FHoxa2 | 0.91767 | 0.1647124 | 5 |
| FWnt7a | 1.1371847 | 0.2042597 | 5 |
| FNtf3 | 1.3377233 | 0.0830699 | 5 |
| FNtrk3 | 1.6257537 | 0.161123 | 5 |
| FInhbb | 0.9449427 | 0.0433164 | 5 |
| FInha | 1.0329715 | 0.0702912 | 5 |
| FAcvr2b | 1.1323855 | 0.1064957 | 5 |
| FInhba | 1.0141517 | 0.0813343 | 5 |
| FSfrp1 | 1.0530329 | 0.086435 | 5 |
| FSfrp2 | 1.2542938 | 0.1086614 | 5 |
| FSfrp4 | 1.257711 | 0.2381955 | 5 |
| FSfrp5 | 1.2444247 | 0.5586363 | 5 |
| FPcaf | 1.0472934 | 0.0642937 | 5 |
| FAxin1 | 1.1297882 | 0.0419072 | 5 |
| FAxin2 | 0.9327676 | 0.0543845 | 5 |
| FDixdc1 | 0.9104581 | 0.0796367 | 5 |
| FDvl1 | 0.8782795 | 0.0639956 | 5 |
| FDvl2 | 1.0281236 | 0.0286832 | 5 |
| FDvl3 | 1.2662996 | 0.1081432 | 5 |
| FTle1 | 1.1100023 | 0.016677 | 5 |
| FTle2 | 1.177525 | 0.041525 | 5 |
| FDkk3 | 1.2493758 | 0.1049174 | 5 |
| FDkk1 | 0.8591362 | 0.1841676 | 5 |
| FRGD1563046 | 0.947363 | 0.1011402 | 5 |
| FSra1 | 1.12293 | 0.0365023 | 5 |
| FAr | 1.1114993 | 0.0581449 | 5 |
| FEsr1 | 1.274343 | 0.0908086 | 5 |
| FEsr2 | 1.2882825 | 0.1127613 | 5 |
| FVdr | 0.7680766 | 0.1018694 | 5 |
| FNr4a2 | 0.7969271 | 0.0420681 | 5 |
| FNr1d1 | 1.0863385 | 0.0753954 | 5 |
| FNr3c2 | 0.7369832 | 0.0503085 | 5 |
| FNr3c1 | 1.0026295 | 0.0743239 | 5 |
| FPparg | 1.700995 | 0.5813578 | 5 |
| FPpard | 1.0579122 | 0.0417642 | 5 |
| FPpara | 0.87168 | 0.0801784 | 5 |
| FRxra | 1.0678244 | 0.0631813 | 5 |
| FRxrb | 1.2613722 | 0.0605009 | 5 |
| FRxrg | 0.7314885 | 0.1167117 | 5 |
| FRara | 1.0577308 | 0.0671676 | 5 |
| FRarb | 1.0161961 | 0.0372611 | 5 |
| FRarg\_mapped | 1.106008 | 0.0211907 | 5 |
| FAcox1 | 0.9650726 | 0.0760994 | 5 |
| FCyp4a1 | 0.6603587 | 0.1925572 | 5 |
| FFabp1 | 3.3743681 | 1.0530961 | 5 |
| FApoa1 | 1.4077614 | 0.3258727 | 5 |
| FAdh1 | 1.3463579 | 0.2736544 | 5 |
| FAldh1a1 | 0.9912229 | 0.0905984 | 5 |
| FPou5f1 | 1.0959999 | 0.123965 | 5 |
| FActb | 1.2133072 | 0.0553264 | 5 |
| FB2m | 1.5018604 | 0.1956039 | 5 |
| FGusb | 0.6388753 | 0.0632533 | 5 |
| FLdha | 0.7392014 | 0.1094661 | 5 |
| FRGDC | 0.5614863 | 0.2768188 | 5 |
| FRTC | 1.1968468 | 0.0965141 | 5 |
| FPPC | 0.9743889 | 0.0749821 | 5 |
| Dose=100% of top dose | Mean fold | Std Error | N |
| FWt1 | 1.1464459 | 0.0472952 | 5 |
| FNr5a1 | 0.9737725 | 0.0535114 | 5 |
| FLhx9 | 1.0311527 | 0.0398927 | 5 |
| FGata4 | 1.3373443 | 0.0605608 | 5 |
| FEmx2 | 1.1955002 | 0.1382515 | 5 |
| FLhx1 | 1.7600037 | 0.1166294 | 5 |
| FCbx2 | 1.0692675 | 0.0668893 | 5 |
| FDmrt1 | 0.793695 | 0.1021347 | 5 |
| FDmrt2 | 0.7629244 | 0.1572823 | 5 |
| FSry | 0.839877 | 0.07958 | 5 |
| FSox9 | 1.3964873 | 0.1177966 | 5 |
| FZfpm2 | 1.1090119 | 0.1377431 | 5 |
| FNr0b1 | 0.966719 | 0.016894 | 5 |
| FSox8 | 1.1484427 | 0.0549204 | 5 |
| FAmhr2 | 1.2517024 | 0.109759 | 5 |
| FRhox5 | 1.2445558 | 0.0367172 | 5 |
| FPtgds2 | 0.9174008 | 0.0771151 | 5 |
| FStar | 0.5817931 | 0.064934 | 5 |
| FCyp11a1 | 0.8074247 | 0.0427196 | 5 |
| FCyp11b2 | 0.2413916 | 0.0889853 | 5 |
| FHsd3b | 0.7911289 | 0.047725 | 5 |
| FCyp17a1 | 0.6309653 | 0.0474404 | 5 |
| FHsd17b3 | 1.333124 | 0.1048482 | 5 |
| FLhcgr | 0.9789743 | 0.112668 | 5 |
| FScarb1 | 0.5287415 | 0.0285345 | 5 |
| FMapk3 | 1.1963038 | 0.0597607 | 5 |
| FInsl3 | 0.6374961 | 0.0368039 | 5 |
| FDhcr7 | 0.7364554 | 0.0647867 | 5 |
| FTspo | 1.103344 | 0.1050528 | 5 |
| FCyp11b1 | 0.2839734 | 0.0722952 | 5 |
| FDhh | 1.3482743 | 0.105697 | 5 |
| FPdgfa | 1.1530072 | 0.0543005 | 5 |
| FFgf9 | 1.1304549 | 0.089414 | 5 |
| FFgf8 | 1.4594212 | 0.2396808 | 5 |
| FPtch1 | 1.220931 | 0.1350446 | 5 |
| FPdgfra | 1.124216 | 0.0831403 | 5 |
| FLOC691504 | 0.9396997 | 0.167066 | 5 |
| FSmo | 1.2708886 | 0.0826147 | 5 |
| FTgfb1 | 1.1870767 | 0.1110906 | 5 |
| FRhox10 | 0.8591419 | 0.1155389 | 5 |
| FHoxa2 | 0.9656016 | 0.086631 | 5 |
| FWnt7a | 0.6209542 | 0.0901045 | 5 |
| FNtf3 | 1.8758157 | 0.1690221 | 5 |
| FNtrk3 | 1.2895949 | 0.1087008 | 5 |
| FInhbb | 1.1041803 | 0.0345282 | 5 |
| FInha | 0.9304692 | 0.0834571 | 5 |
| FAcvr2b | 1.1699269 | 0.1301568 | 5 |
| FInhba | 0.9177338 | 0.0337378 | 5 |
| FSfrp1 | 1.1245042 | 0.038296 | 5 |
| FSfrp2 | 1.3398912 | 0.0477396 | 5 |
| FSfrp4 | 1.1023414 | 0.148999 | 5 |
| FSfrp5 | 2.1944034 | 0.6248985 | 5 |
| FPcaf | 1.1407756 | 0.0766922 | 5 |
| FAxin1 | 1.0542693 | 0.0654748 | 5 |
| FAxin2 | 0.9907436 | 0.0265906 | 5 |
| FDixdc1 | 1.0357153 | 0.0536397 | 5 |
| FDvl1 | 0.9396509 | 0.0374947 | 5 |
| FDvl2 | 1.0216995 | 0.0722044 | 5 |
| FDvl3 | 1.2951261 | 0.1089846 | 5 |
| FTle1 | 1.0075687 | 0.0458263 | 5 |
| FTle2 | 1.2591907 | 0.0629911 | 5 |
| FDkk3 | 1.2186319 | 0.0630395 | 5 |
| FDkk1 | 0.9761141 | 0.073432 | 5 |
| FRGD1563046 | 1.0485965 | 0.1071267 | 5 |
| FSra1 | 1.2907958 | 0.0957904 | 5 |
| FAr | 0.8962066 | 0.0320836 | 5 |
| FEsr1 | 1.1707909 | 0.0277794 | 5 |
| FEsr2 | 1.4890092 | 0.1354227 | 5 |
| FVdr | 0.9665474 | 0.2117005 | 5 |
| FNr4a2 | 1.0677314 | 0.0235411 | 5 |
| FNr1d1 | 0.879467 | 0.1 | 5 |
| FNr3c2 | 0.9247673 | 0.1385677 | 5 |
| FNr3c1 | 1.0444026 | 0.0366694 | 5 |
| FPparg | 1.3197784 | 0.4986256 | 5 |
| FPpard | 1.1893716 | 0.0431821 | 5 |
| FPpara | 0.9430872 | 0.0320953 | 5 |
| FRxra | 1.0297829 | 0.0577904 | 5 |
| FRxrb | 1.1407775 | 0.0667907 | 5 |
| FRxrg | 0.9158322 | 0.0951828 | 5 |
| FRara | 1.2116062 | 0.0967541 | 5 |
| FRarb | 1.3021164 | 0.239476 | 5 |
| FRarg\_mapped | 1.0147177 | 0.1062412 | 5 |
| FAcox1 | 0.9796686 | 0.1043645 | 5 |
| FCyp4a1 | 1.4991726 | 0.8397504 | 5 |
| FFabp1 | 0.9971411 | 0.3467566 | 5 |
| FApoa1 | 1.3460454 | 0.0782239 | 5 |
| FAdh1 | 1.0733347 | 0.213137 | 5 |
| FAldh1a1 | 1.3178109 | 0.1198223 | 5 |
| FPou5f1 | 1.3136349 | 0.1187975 | 5 |
| FActb | 1.1540878 | 0.0812552 | 5 |
| FB2m | 1.962759 | 0.3025064 | 5 |
| FGusb | 0.6466598 | 0.152756 | 5 |
| FLdha | 0.7211292 | 0.115132 | 5 |
| FRGDC | 1.0006961 | 0.2807689 | 5 |
| FRTC | 1.1457051 | 0.1355334 | 5 |
| FPPC | 0.935881 | 0.0986755 | 5 |

**Table 3.** Individual chemical dose response parameters for reduction in ano-genital distance used to generate dose addition and response addition mixture models.

|  |  |  |  |
| --- | --- | --- | --- |
| **Chemical** | **CAS** | **ED50 (mg/kg/d)** | **Slope** |
| Finasteride | 98319-26-7 | 1.1 | 0.306 |
| Flutamide | 13311-84-7 | 5.2 | 1.538 |
| Vinclozolin | 50471-44-8 | 76.3 | 1.037 |
| Diethylhexyl ph. | 117-81-7 | 1012.0 | 1.467 |
| Linuron | 330-55-2 | 96.1 | 2.436 |
| Procymidone | 32809-16-8 | 88.5 | 1.119 |
| Pyrifluquinazon | 337458-27-2 | 74.7 | 1.417 |
| Prochloraz | 67747-09-5 | 756.3 | 0.770 |
| Dipentyl ph. | 131-18-0 | 282.6 | 1.310 |
| Simvastatin | 79902-63-9 | 575.0 | 0.979 |
| Dibutyl ph. | 84-74-2 | 784.8 | 1.625 |
| p,p’-DDE | 72-55-9 | 337.2 | 1.231 |
| Diisoheptyl ph. | 71888-89-6 | 647.1 | 2.064 |
| Dicyclohexyl ph. | 84-61-7 | 2211.0 | 0.898 |
| Butylbenzyl ph. | 85-68-7 | 1368.0 | 1.545 |
| Diisobutyl ph. | 84-69-5 | 922.8 | 1.205 |
| Dihexyl ph. | 84-75-3 | 689.3 | 1.367 |
| Diheptyl ph. | 3648-21-3 | 2160.0 | 2.047 |