

Supplemental Table S1: Endocrine-related pathways associated with all five pesticides (p<0.01)

Endocrine-Mediated Pathway	Examples of genes affected by OCPs
Androgen biosynthesis	CGA HSD17B12 HSD3B1 LHB POMC CGA CYP17A1 HSD17B3 HSD3B1 LHB
Endocrine resistance	ADCY4 AKT1 AKT2 BAD BAX BCL2 CCND1 CDK4 CDKN1A CDKN2A CYP2D6 EGFR ESR1 ESR2 FOS GNAS HBEGF HRAS IGF1 IGF1R MAPK1 MAPK10 MAPK3 MAPK8 MED1 NCOR1 NRAS PIK3R1
Estrogen signaling pathway	ADCY4 AKT1 AKT2 CREB1 EGFR ESR1 ESR2 FOS GNAI3 GNAO1 GNAS HBEGF HRAS HSP90AA1 HSP90B1 HSPA1A ITPR3 MAPK1 MAPK3 NRAS PIK3R1
GnRH signaling pathway	ADCY4 CGA EGFR FSHB GNAS GNRH1 HBEGF HRAS ITPR3 LHB MAP3K3 MAPK1 MAPK10 MAPK3 MAPK8 MMP14 NRAS PRKCA PRKCB
Hormone ligand-binding receptors	CGA FSHB FSHR GNRH1 LHB LHCGR TSHB
IGF1R signaling cascade	AKT1 AKT2 ANGPT1 ARRB1 DLG4 DUSP1 EGFR EIF4E FGB FGF2 FYN GRIN1 HBEGF HRAS IL2 IL5 INSR IRS1 JAK1 KSR1 MAPK1 MAPK3 NRAS PDGFA PDGFB PHB PIK3R1 PSMA2 PSMA3 PSMB1 PSMB8 PSMD5 PTPN11
Insulin receptor signalling cascade	AKT1 AKT2 ANGPT1 ARRB1 DLG4 DUSP1 EGFR EIF4E FGB FGF2 FYN GRIN1 HBEGF HRAS IL2 IL5 INSR IRS1 JAK1 KSR1 MAPK1 MAPK3 NRAS PDGFA PDGFB PHB PIK3R1 PSMA2 PSMA3 PSMB1 PSMB8 PSMD5 PTPN11
Insulin signaling pathway	AKT2 ARAF CALM2 CRK ELK1 FLOT1 HK2 INS MAP2K1 MAP2K2 MAPK1 MAPK10 MAPK3 MTOR PIK3R2 PRKAB1 PYGM RAF1 TSC1 TSC2
Nuclear Receptor transcription pathway	AR ESR1 ESR2 MED1 NR1H4 NR1I2 NR1I3 NR3C1 NR3C2 NR4A1 NR4A2 NR5A1 PGR PPARG RXRA RXRB THRA THRB
Ovarian steroidogenesis	ADCY4 CGA CYP11A1 CYP17A1 CYP19A1 CYP1A1 CYP1B1 FSHB FSHR GNAS HSD17B1 HSD17B2 HSD17B7 HSD3B1 IGF1 IGF1R INSR LHB LHCGR SCARB1 STAR
Oxytocin signaling pathway	ACTB CALM2 CAMK2A CAMK2B CAMK2G CCND1 CDKN1A EGFR ELK1 FOS JUN MAP2K1 MAP2K2 MAPK1 MAPK3 MYLK PLCB1 PPP3R1 PRKAB1 RAF1 RGS2 SRC
Peptide hormone metabolism	ACE CGA CMA1 CTNNB1 EXOC4 FSHB GRP IGF1 KIF5A KIF5B LHB RAB27A REN TSHB
Prolactin signaling pathway	AKT1 AKT2 CCND1 CCND2 CGA CSN2 CYP17A1 ESR1 ESR2 FOS FOXO3 HRAS LHB LHCGR MAPK1 MAPK10 MAPK3 MAPK8 NRAS PIK3R1 PRL PRLR RELA SLC2A2 SOCS3 STAT3 TH
Signaling by Insulin receptor	AKT2 ARAF ARRB2 CALM2 CAMK2A CAMK2B CAMK2G DUSP1 EGFR EIF4G1 ERBB3 FGB FGF1 FGF17 FGF2 FGF22 FGF9 FGFR1 FGFR4 FYN GFR A1 GRIN1 GRIN2B GRIN2C INS IQGAP1 ITGA2B KIT MAP2K1 MAP2K2 M
Signaling by Leptin	CAMK2B CAMK2G DLG4 EGF EGFR ERBB2 ERBB3 ERBB4 FGFR4 FN1 FYN GDNF GFRA1 GFRA4 GRIN1 GRIN2B IRS2 KIT LEP MAPK1 MAPK3 NF1 NRG1 PDGFRA PDGFRB RET SPTBN2 STAT3 STAT5B SYNGAP1
Steroid hormone biosynthesis	AKR1C2 CYP11A1 CYP17A1 CYP19A1 CYP1A1 CYP1A2 CYP1B1 CYP3A4 CYP7A1 CYP7B1 HSD17B1 HSD3B1 SULT1E1
Thyroid hormone signaling pathway	ACTB ATP1A1 BAD CASP9 CCND1 CREBBP CTNNB1 ESR1 GSK3B MAPK1 MAPK3 MDM2 MYC MYH6 NCOA1 NOTCH1 PRKACA RXRB SLC9A1 STAT1 TP53
Thyroid hormone synthesis	ALB ATF4 ATP1A1 CGA CREB1 GPX2 GSR HSPA5 PRKACA TSHR TTR