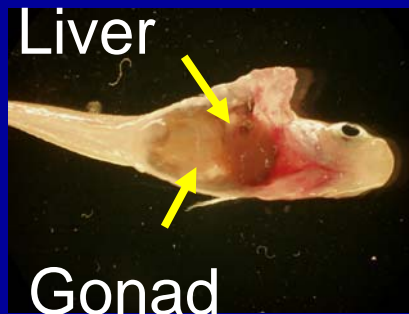


# VTG analysis

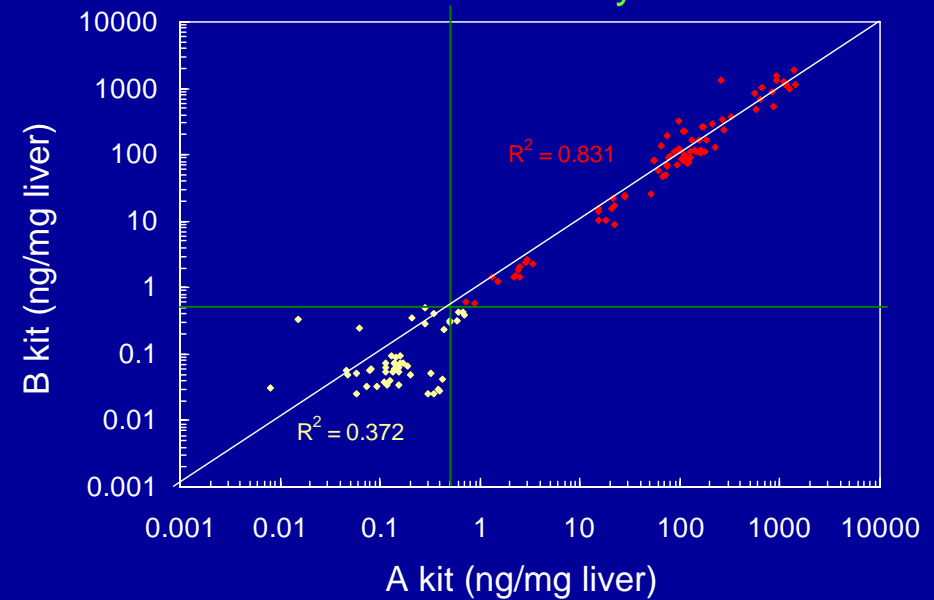


Use liver for VTG analysis

Enzyme linked immuno-  
-solvent assay (ELISA)

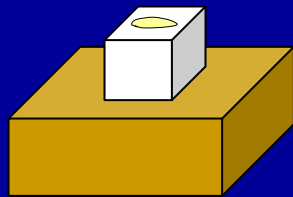


Colleration of the activity of VTG ELISA kits



# Cutting Serial Section

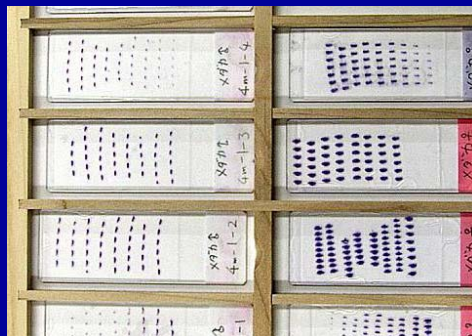
Fix on block



Cut section (5 $\mu$ m thickness) and mount on slides



Stretch on hot plate



ovary

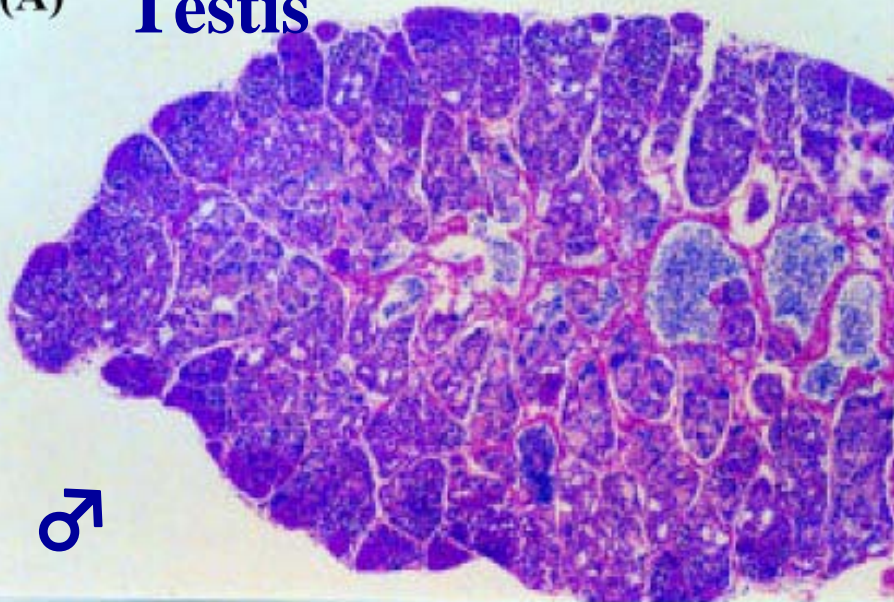


testis

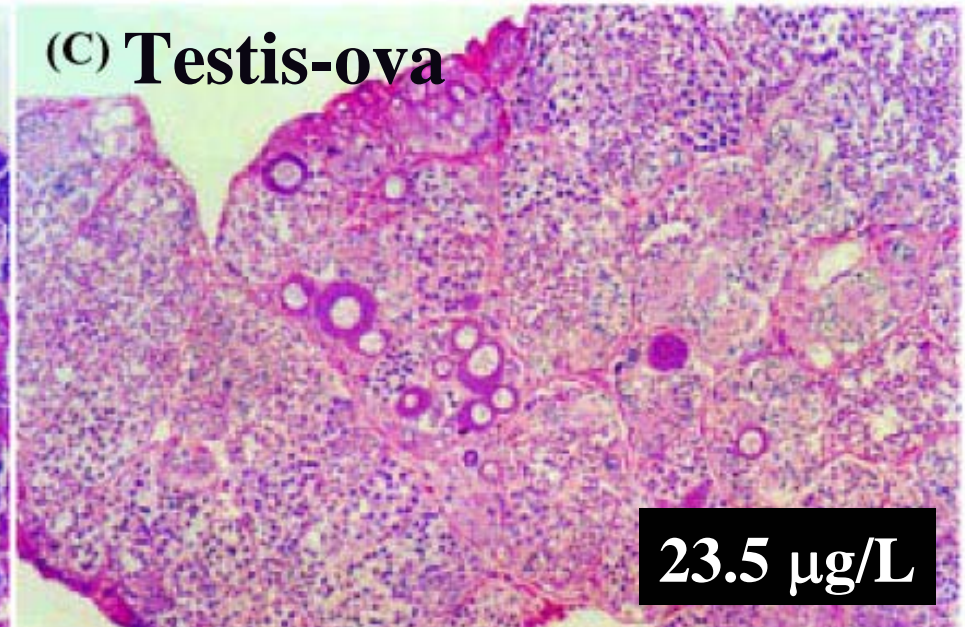
(Approximately 200-300 sections/ fish)

# Histopathology (Nonyl phenol)

(A) Testis



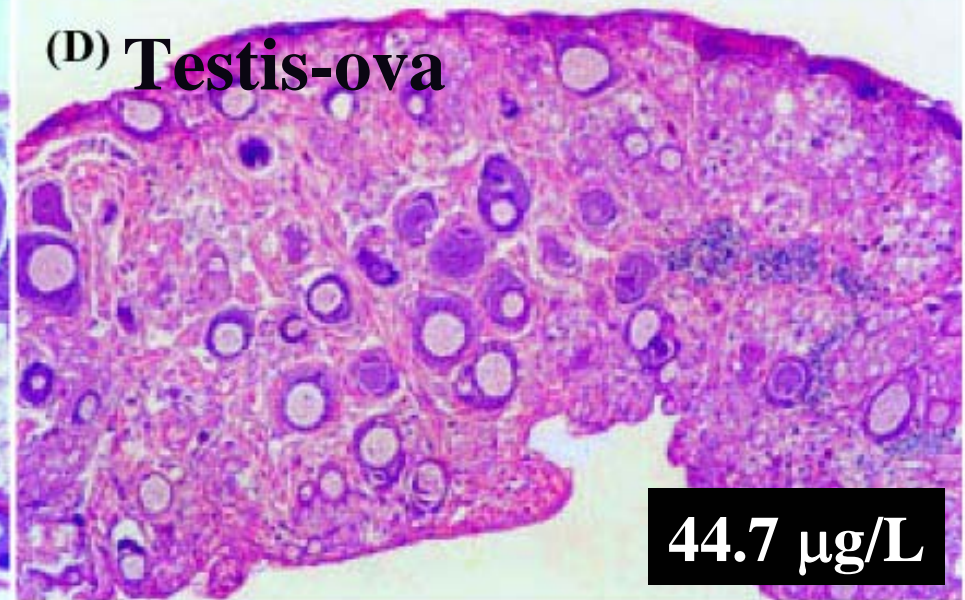
(C) Testis-ova



(B) Ovary



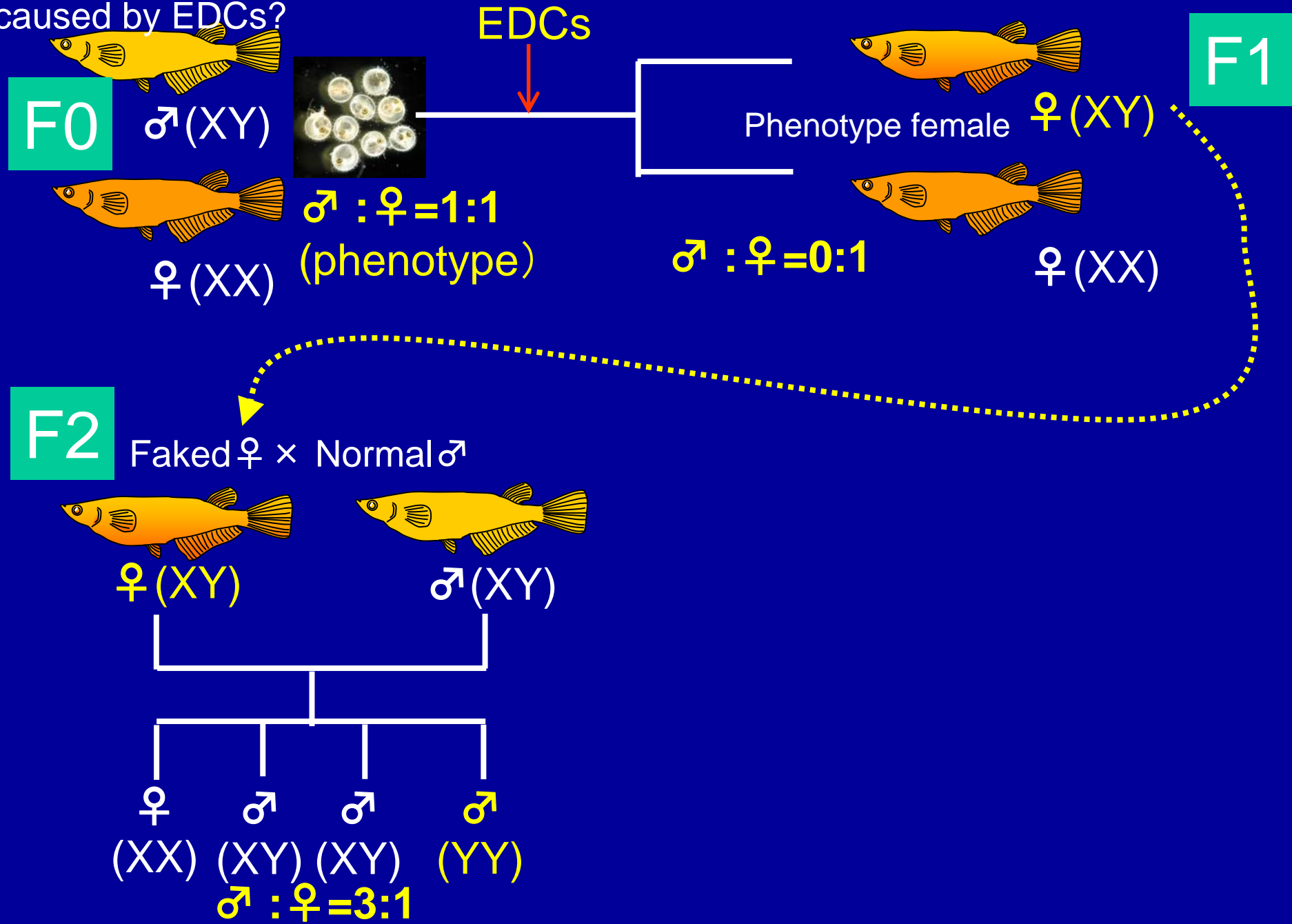
(D) Testis-ova



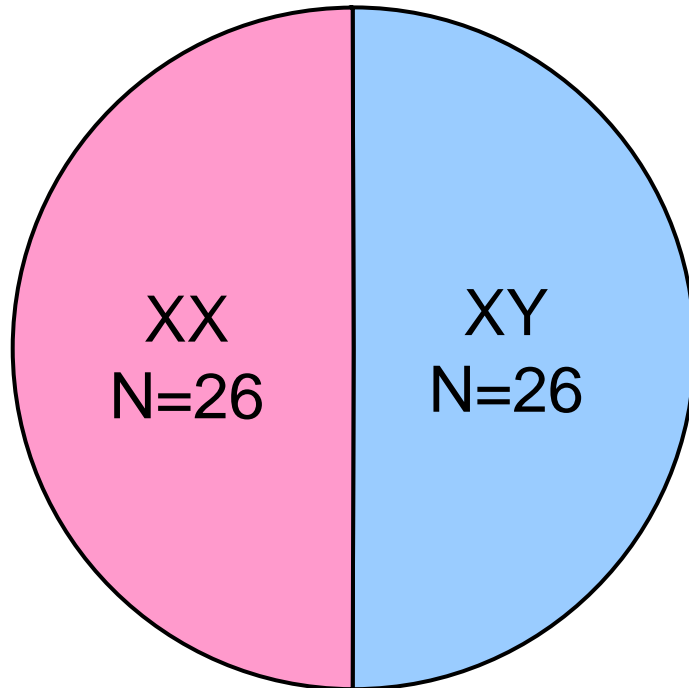
## Results of Medaka test(Nonyl phenol(NP),4-t-Octyl phenol(OP), Bisphenol A(BPA), o,p'-DDT)

Testing Methods	Endpoints	LOEC (µg/L)			
		NP	OP	BPA	DDT
Estrogen receptor binding assay	Binding to receptor	+	+	+	+
Vitellogenin assay	Vitellogenin induction	22.5	64.1	334	1.50
Partial life-cycle assay	Vitellogenin induction	11.6	11.4	890	3.36
	Testis-ova development	11.6	23.7	890	0.195
Full life-cycle assay	Vitellogenin induction	-	9.92	>1179	0.522
	Testis-ova development	<u>17.7</u>	<u>30.4</u>	<u>1179</u>	<u>0.522</u>
	Fertility	(17.7)	82.3	>1179	0.522
	<b>NOEC</b>	6.08	9.92	247	0.145

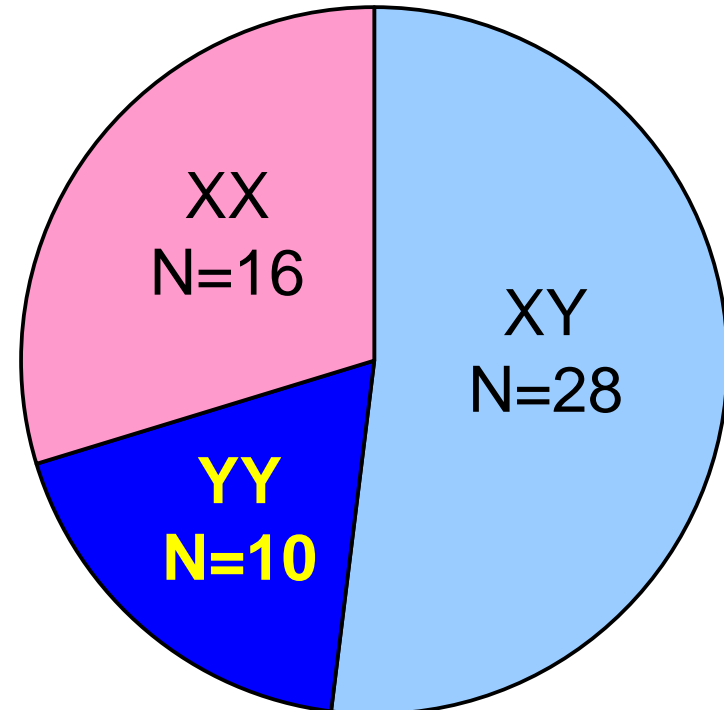
Is it really that the number of female are increase in the environment caused by EDCs?



## Sex ratio of 2nd generation



Control

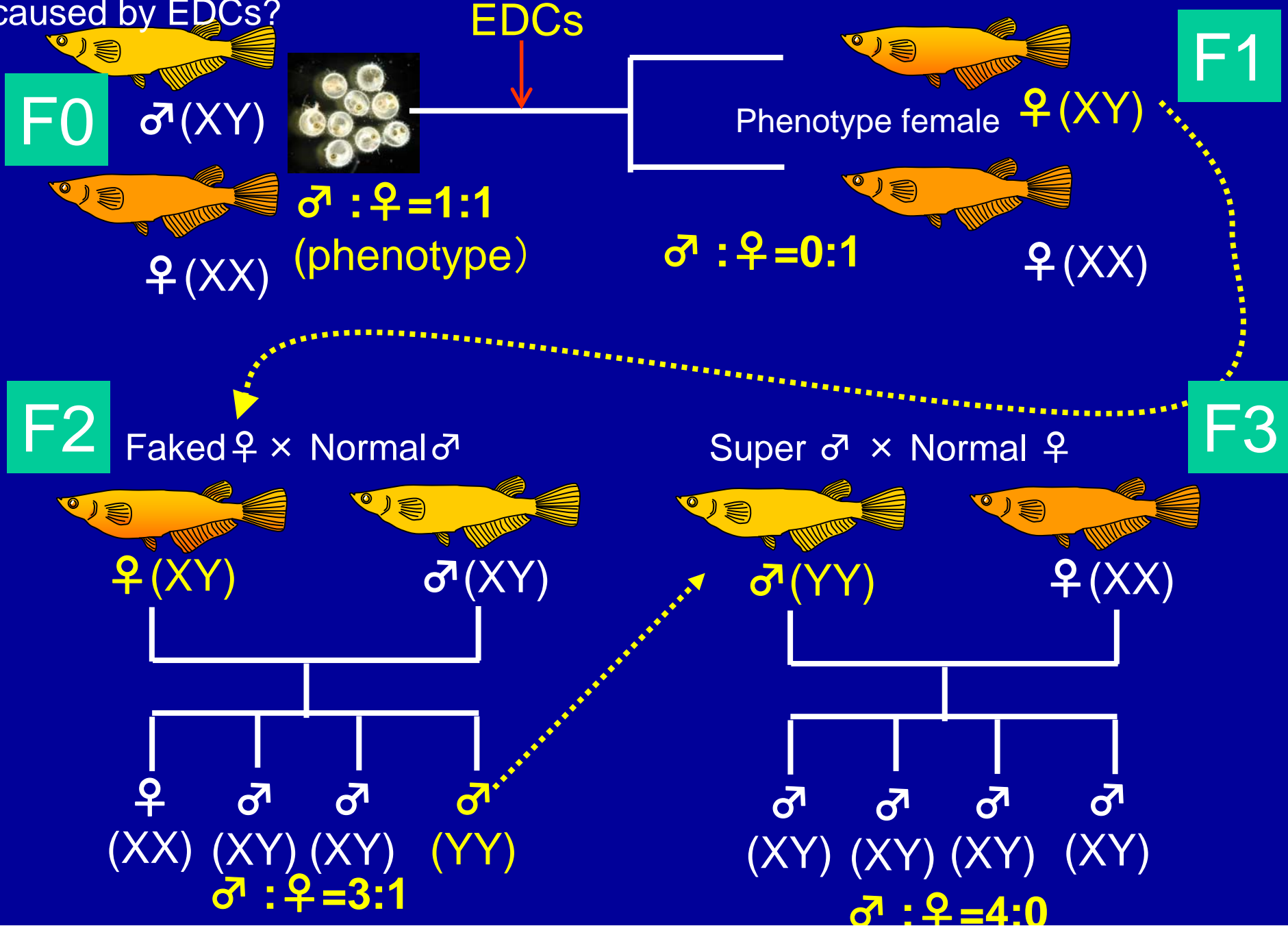


Exposed

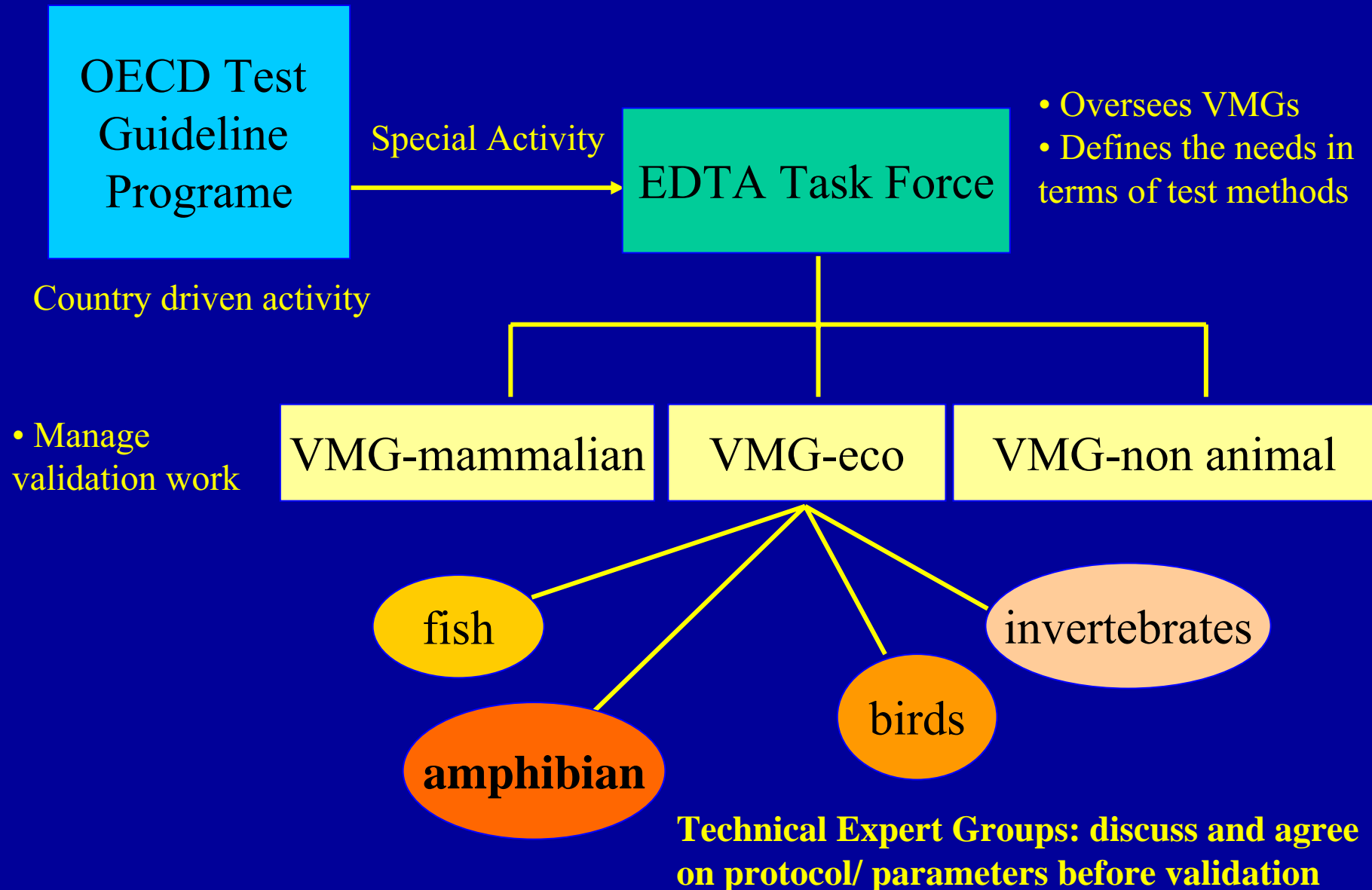
phenotype  $\rightarrow$  ♂ : ♀ = 38 : 16

genotype  $\rightarrow$  XX : XY : YY = 16 : 28 : 10

Is it really that the number of female are increase in the environment caused by EDCs?

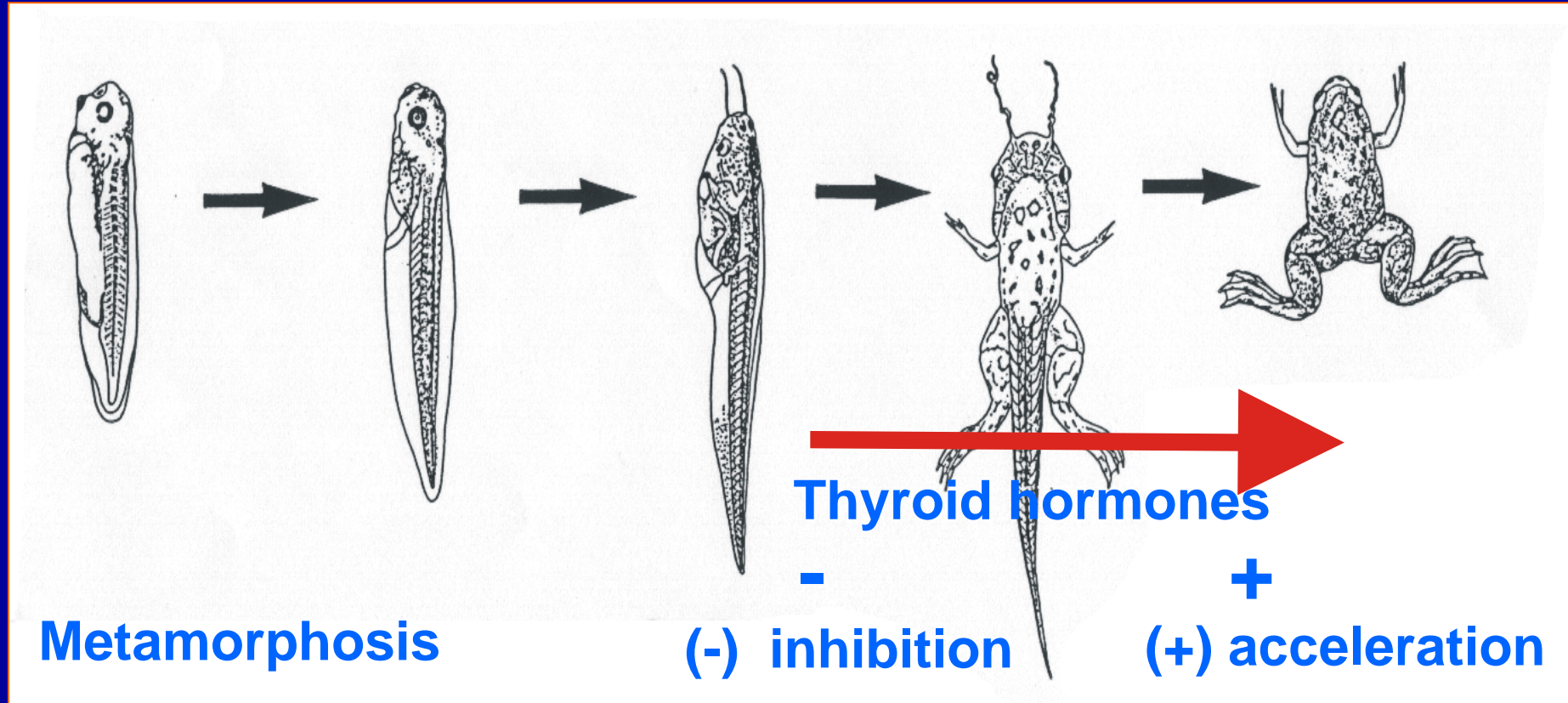


# SCOPE OF THE OECD WORK ON EDCs



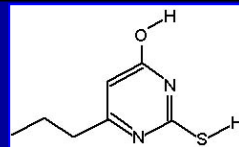
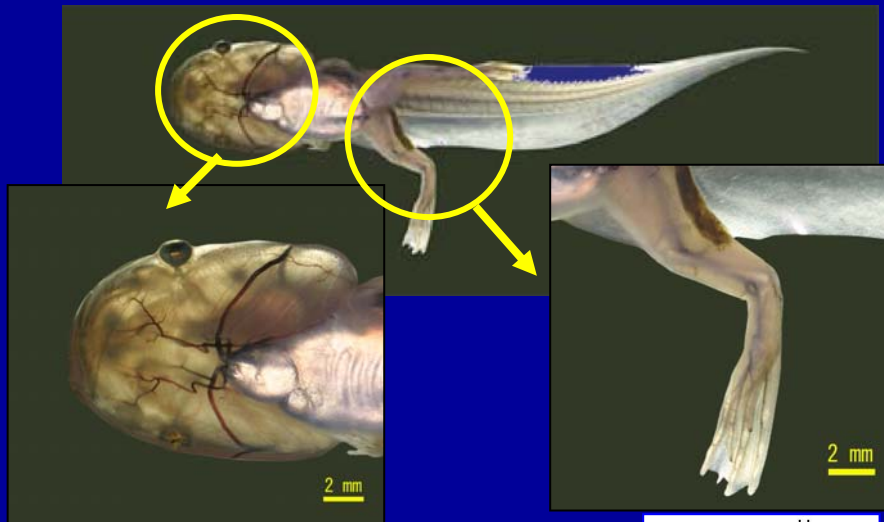


# Development of *Xenopus*

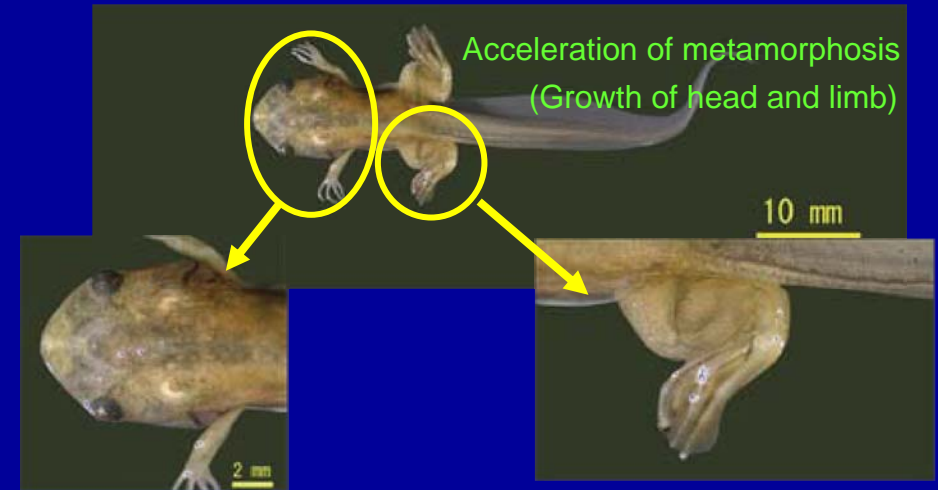
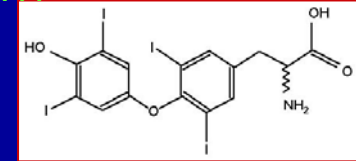


# Morphological changes with disruption to the thyroid system

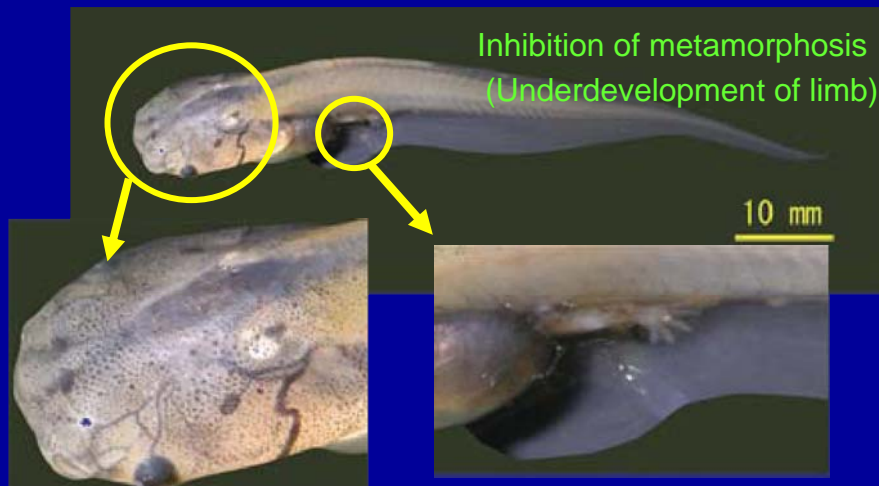
## Control



## T4 $C_{15}H_{11}I_4NO_4$

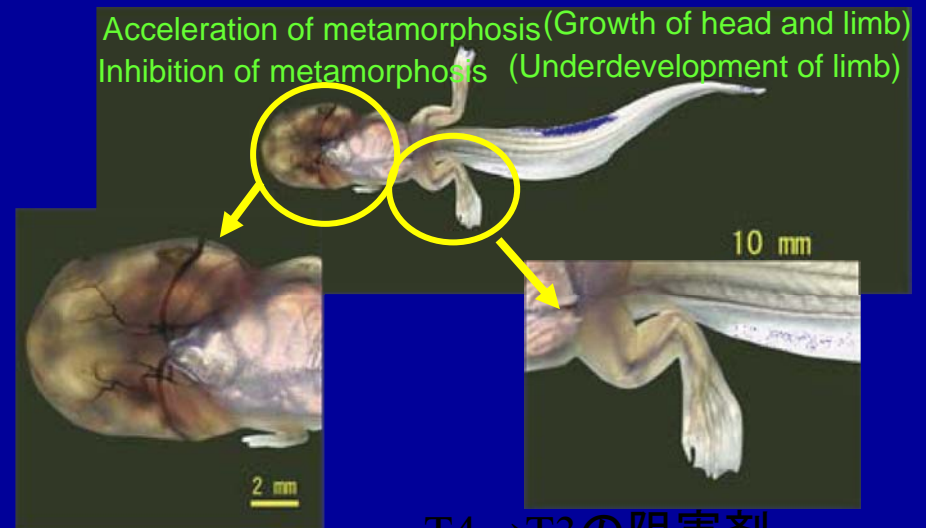
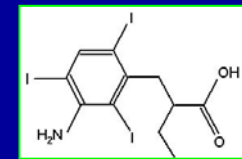


## PTU $C_7H_{10}N_2OS$



ホルモン合成阻害剤

## IOP $C_{11}H_{12}I_3NO_2$



T4→T3の阻害剤