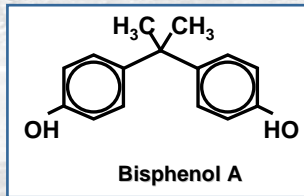


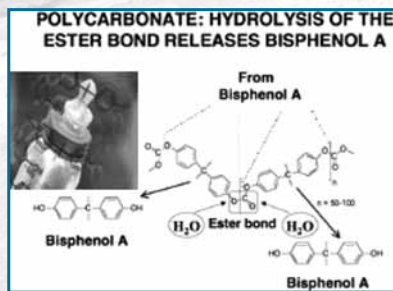
Sources for BPA



1 Plastic baby bottles

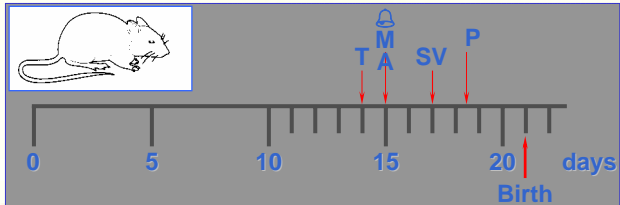


2 Dental sealings

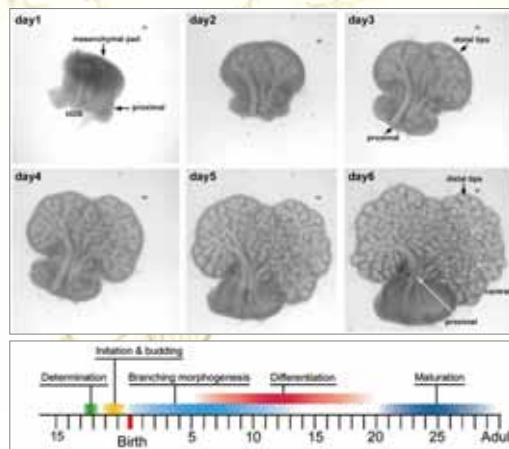


3 Tin can linings

Rat Prostate Development

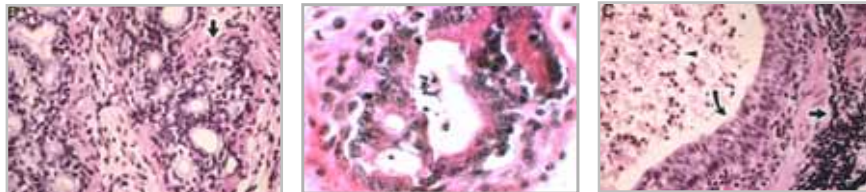
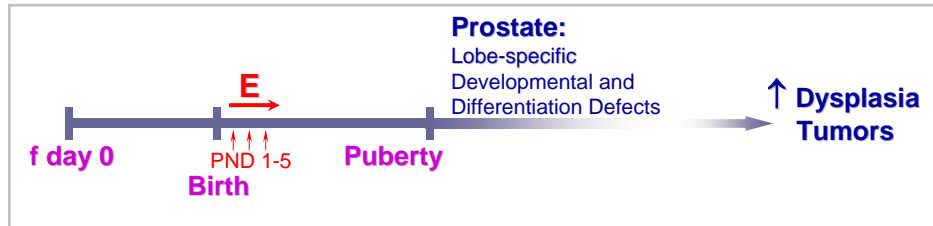


Postnatal morphogenesis



Developmental Estrogenization of the Prostate Gland

McLachlan, et al. (1975)
 Arai & Bern (1975)
 Rajfer & Coffey (1978, 1979)
 Prins (1992)



Estrogen induced changes in prostate gene and protein expression

- Steroid Receptors
 - AR
 - ER α , ER β
 - PR
 - RAR α , β , γ , RXR γ
 - RALDH2, CYP26
 - CRABPs 1 and 2
 - retinoids
- Extracellular matrix molecules:
 - laminin, fibronectin, collagens,
 - MMPs, tPA
- Cell Adhesion Molecules
 - e-cadherins
 - gap junctions (connexins)
- Oxidative Stress Enzymes
 - SOD
 - CYP1B1
 - COMT
- Homeobox Genes
 - *Hox-13a, Hox-13b, Hox-13d*
 - *Nkx3.1*
 - *Msx2*
- Secreted Morphogens:
 - TGF β
 - BMP-4, BMP-7
 - FGF-10 + FGFR2iiib
 - Sonic Hedgehog + *ptc* & *glis*

Prins, et al *Reprod Fertil Dev* 13:241, 2001
 Huang et al, *J Andrology*, 2004