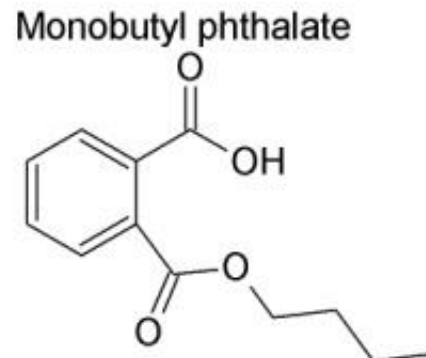
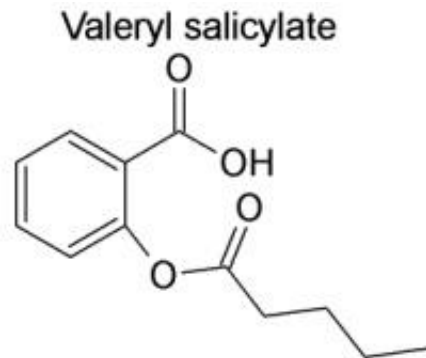
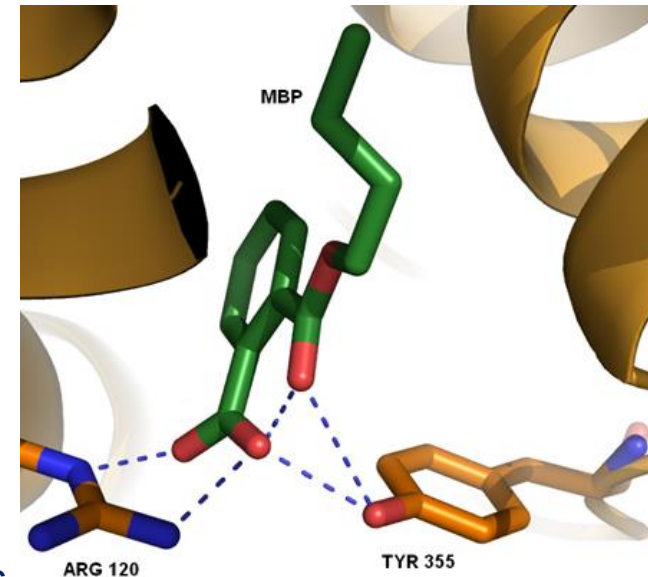


Are we contaminating the environment with pharmaceuticals?

- Department of Science and Environment, Roskilde University
- Department of Growth and Reproduction, Rigshospitalet, University of Copenhagen
- Institut national de la santé et de la recherche médicale (Inserm), Irset U1085, Rennes (France)



There is a high structural similarity between known endocrine disrupting compounds and mild analgesics

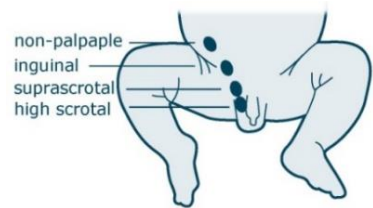


Modelling of monobutyl phthalate into the active site of COX2.

Kristensen et al. 2010

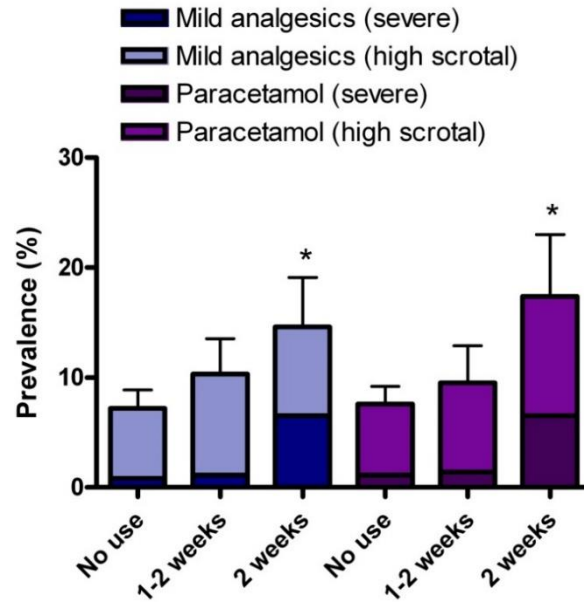
Epidemiology

Interview during third trimester asking about maternal use of mild analgesics



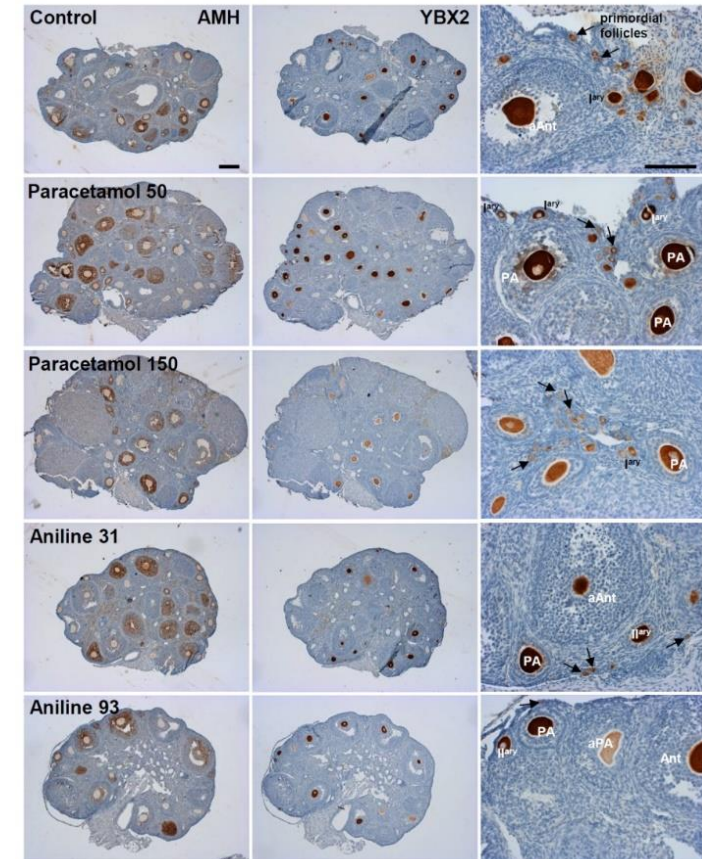
Clinical examination by pediatricians for cryptorchidism at birth

Kristensen et al 2011



Mild analgesics are associated through **anti-androgenic** effects with cryptorchidism.

Holm et al 2016

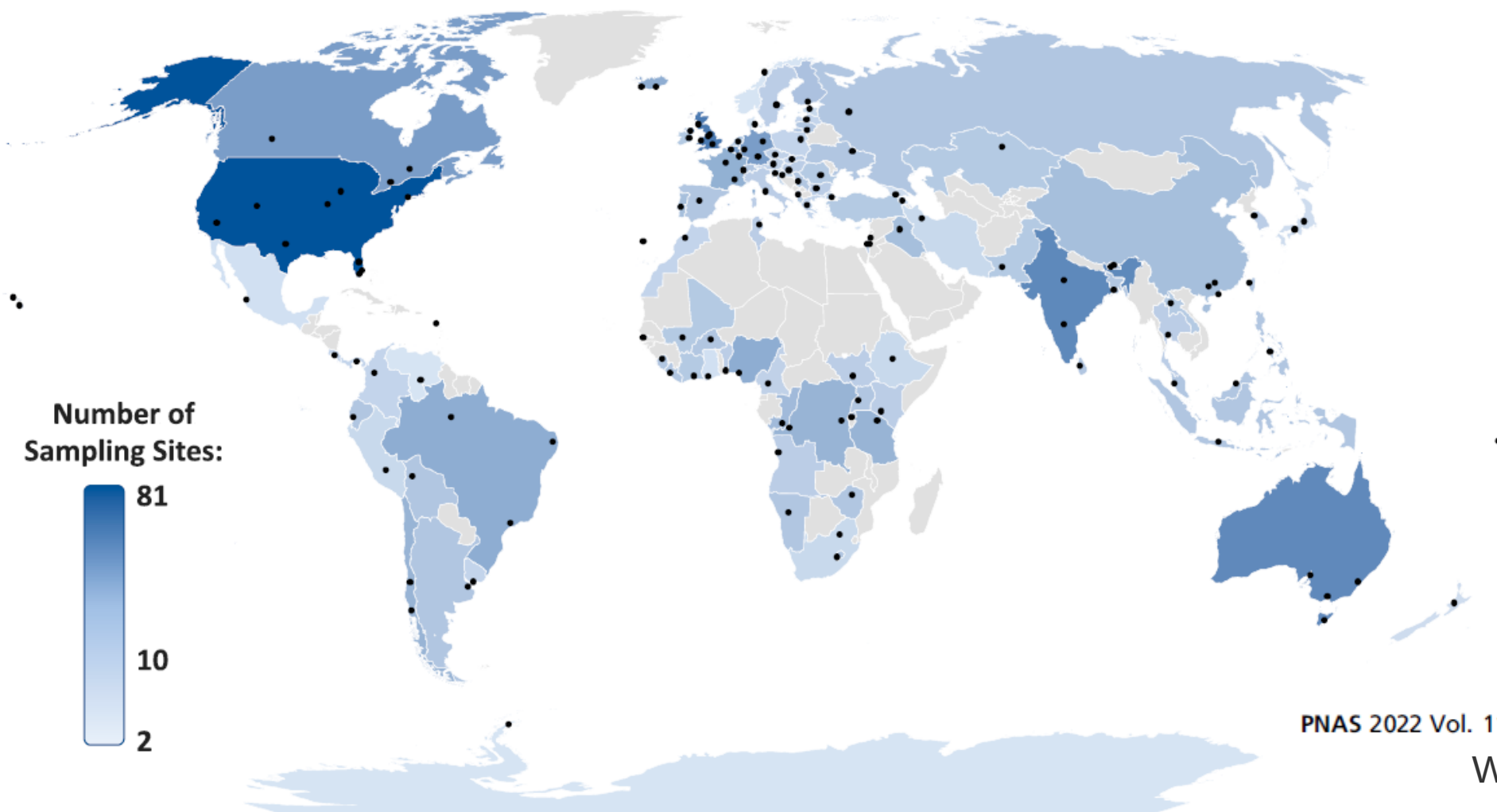


The C57BL/6

Mouse ovaries after APAP exposure dpc 7 to birth. Fewer follicles after **inhibition of ovarigenesis**

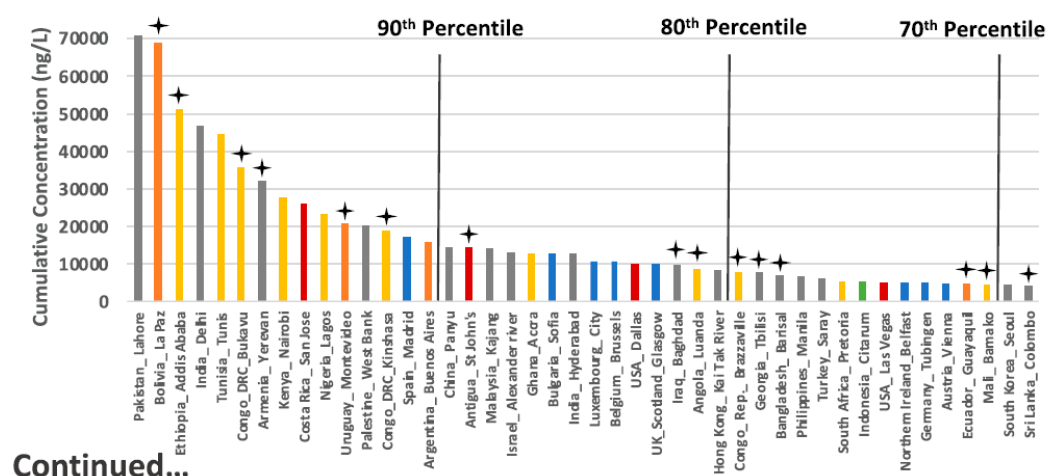
acetaminophen/paracetamol = APAP

Pharmaceutical pollution of the world's rivers

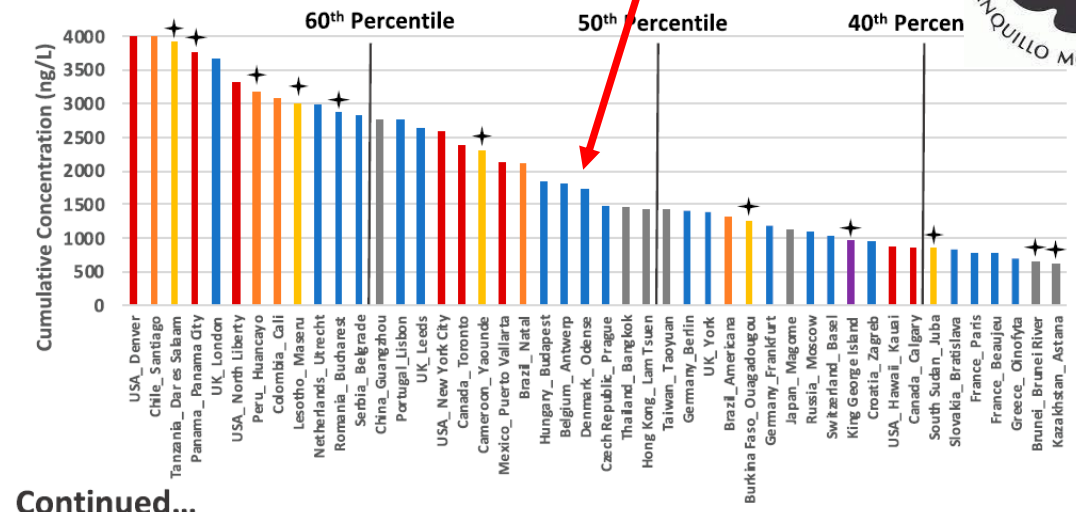


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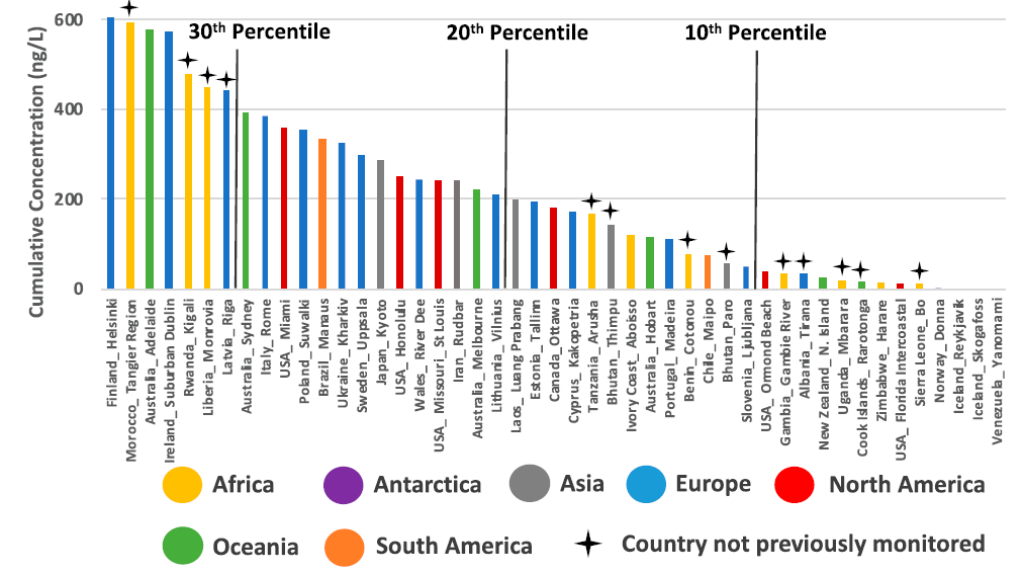
Wilkins et al 2022



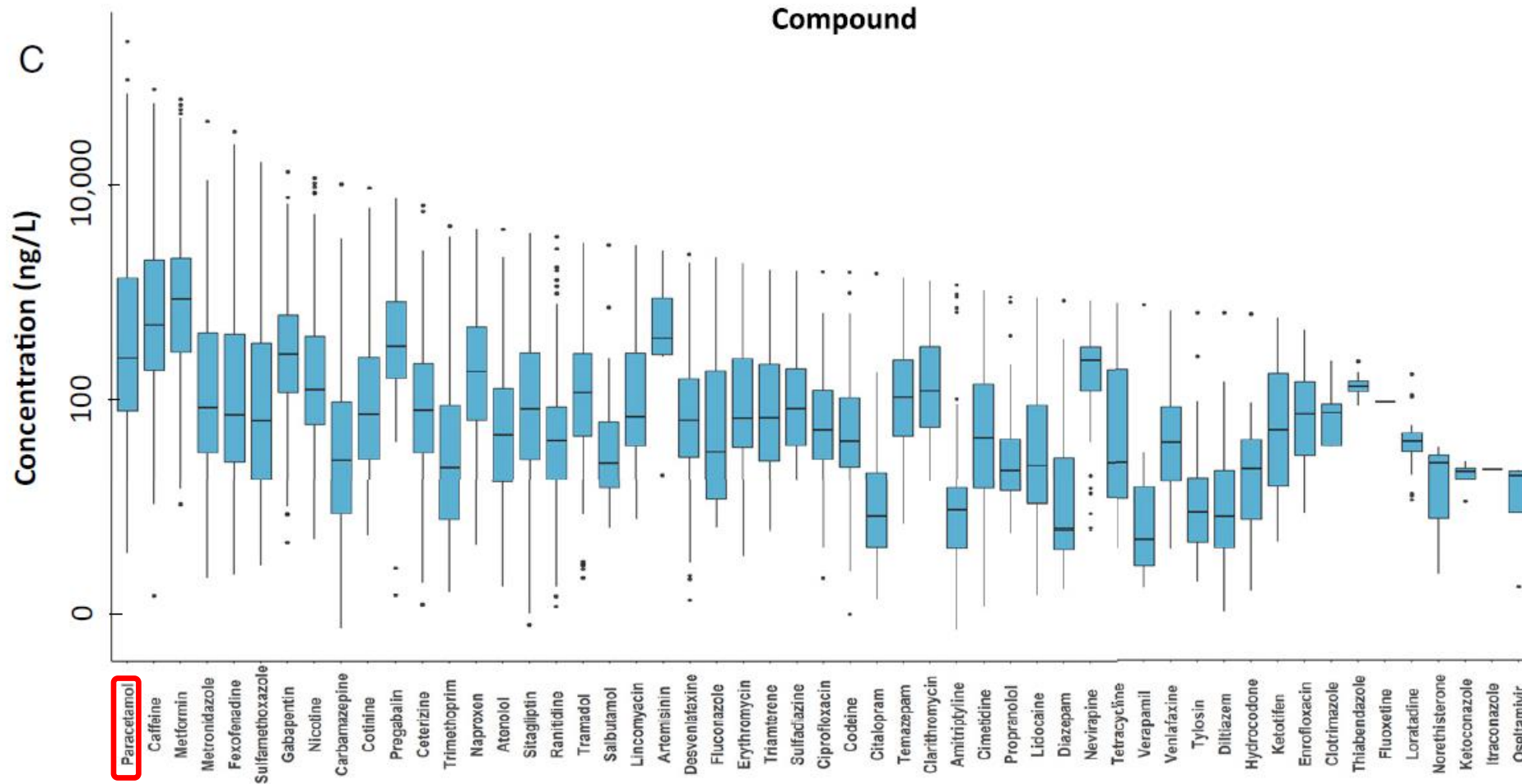
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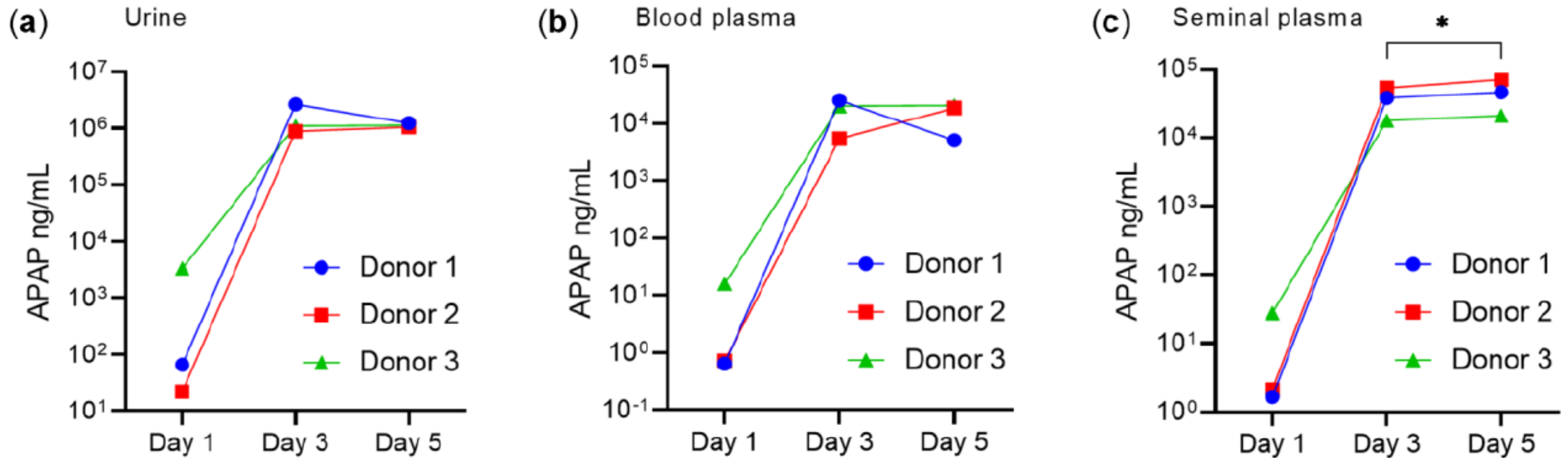


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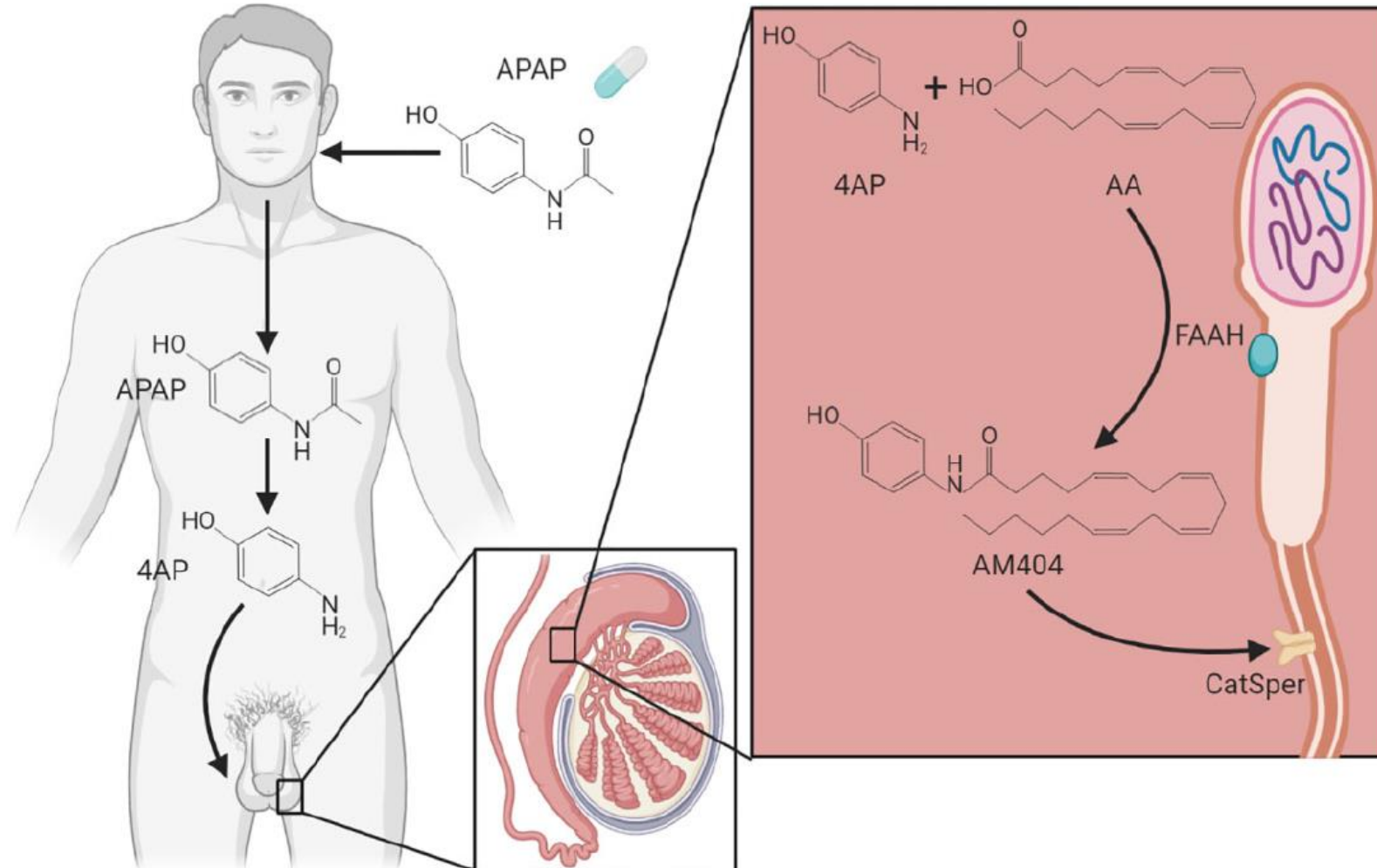
- Africa
- Antarctica
- Asia
- Europe
- North America
- Oceania
- South America
- Country not previously monitored





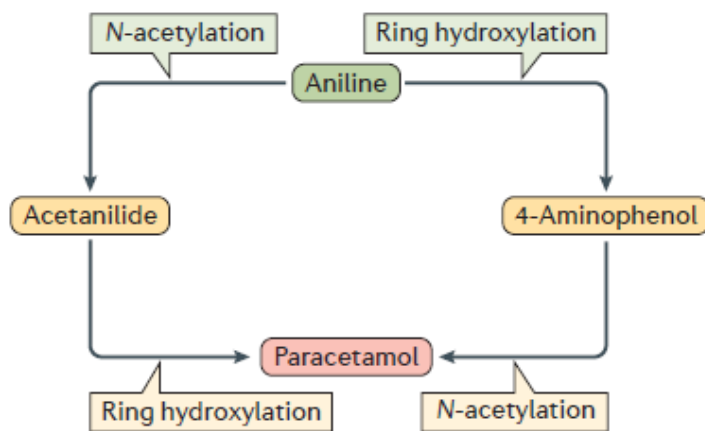
The men had an average background exposure of 1.1 mg/ml (7.6 μ M) in urine, 5.8 ng/ml (38.3 nM) in blood plasma and 496 ng/ml (69.7 nM) in seminal plasma.

APAP = paracetamol Rehfeld et al 2022

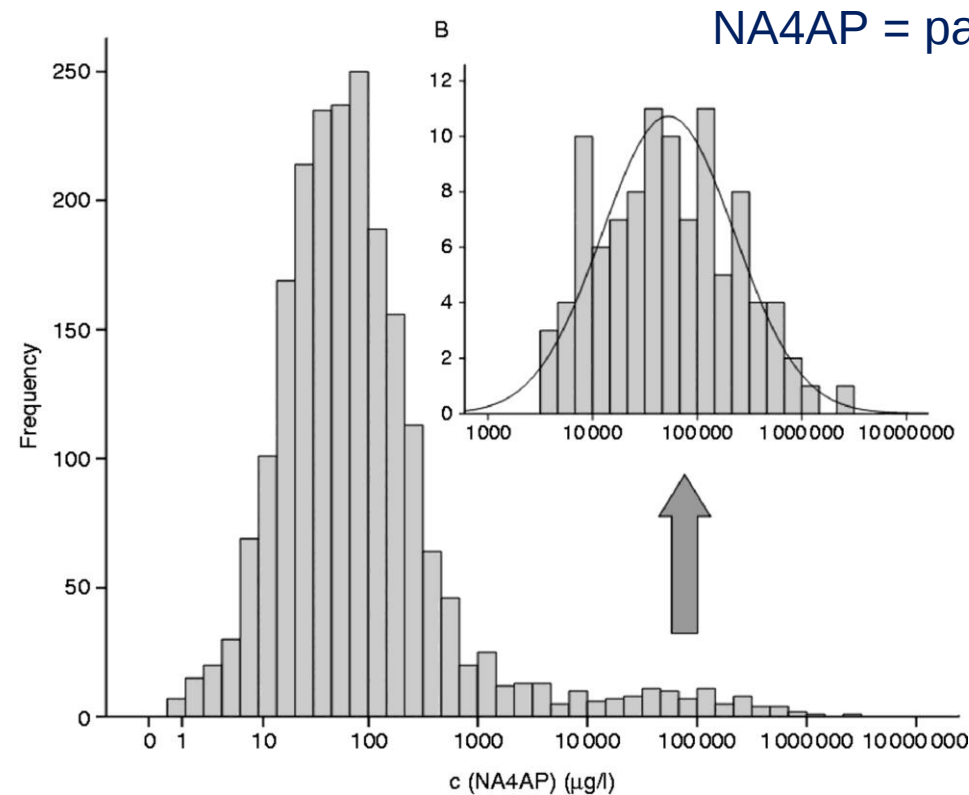


APAP = paracetamol Rehfeld et al 2022

We are all exposed



Kristensen *et al.* 2016,
Nature Rev. Endo.

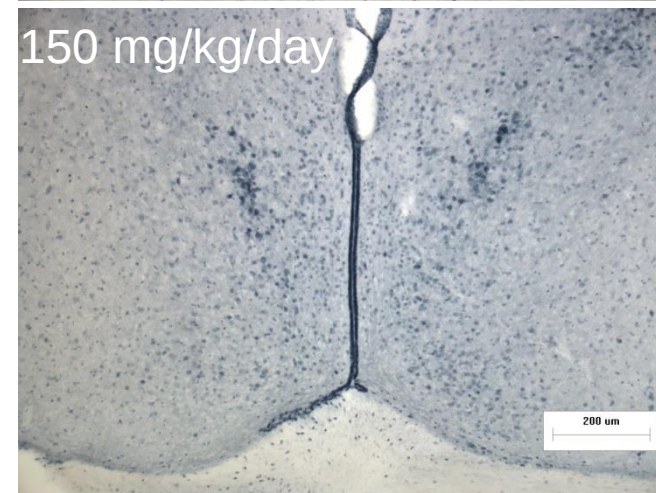
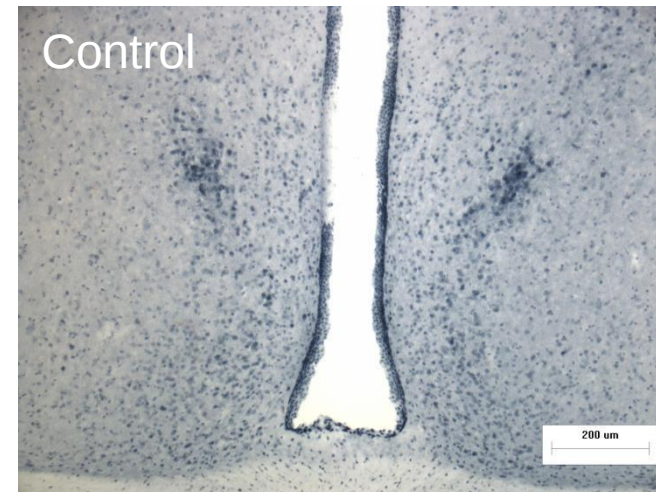
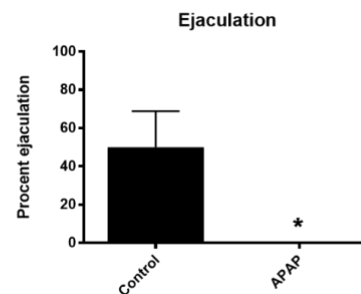
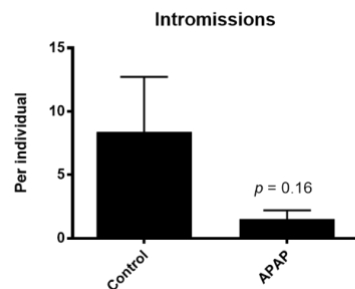
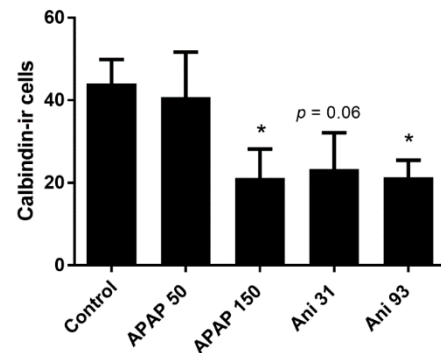


Modick *et al* 2014, Nielsen *et al* 2015,
Holm *et al* 2015 & David *et al* 2021

Change of male behaviour like through *inhibition of prostaglandins* and androgens



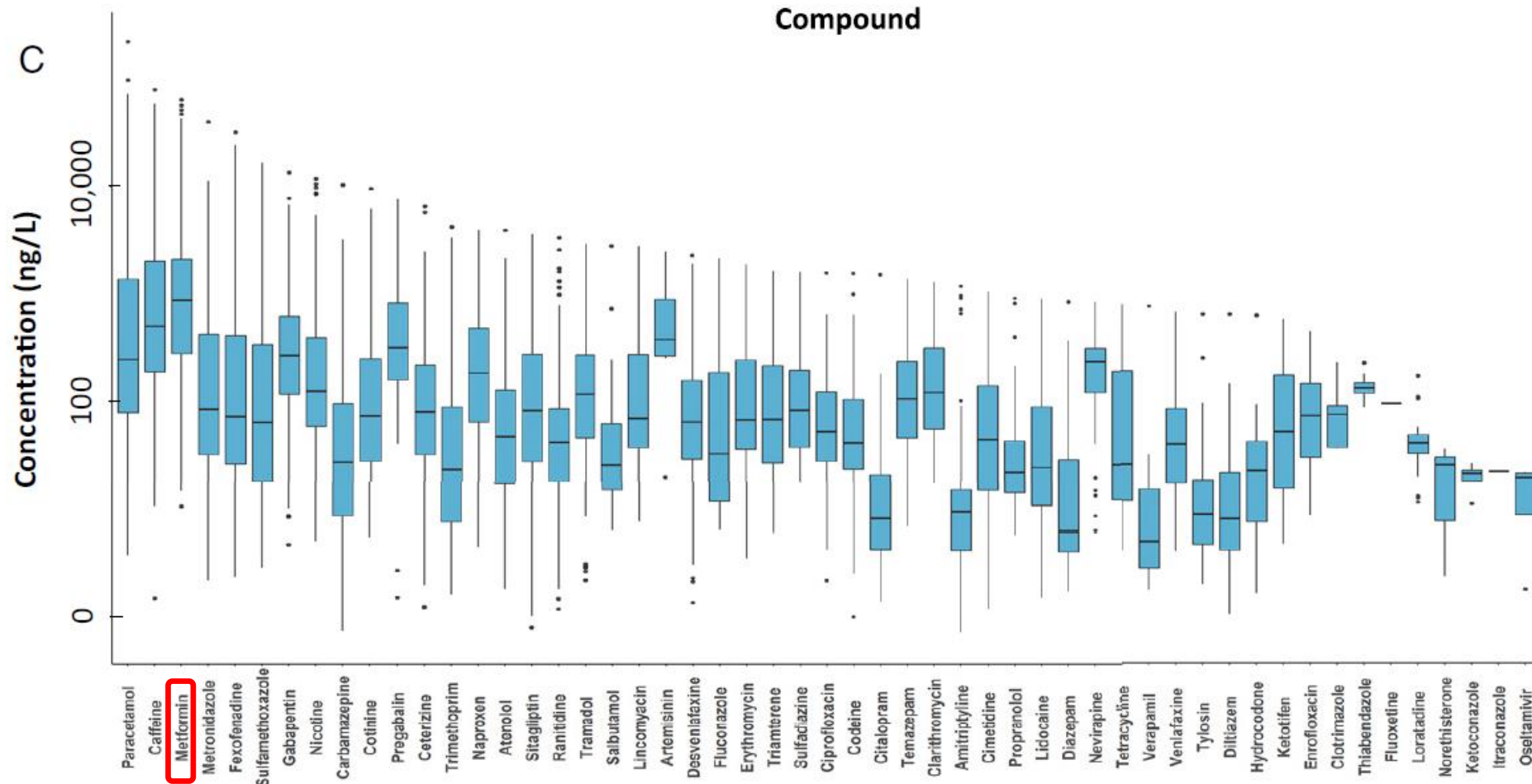
The C57BL/6

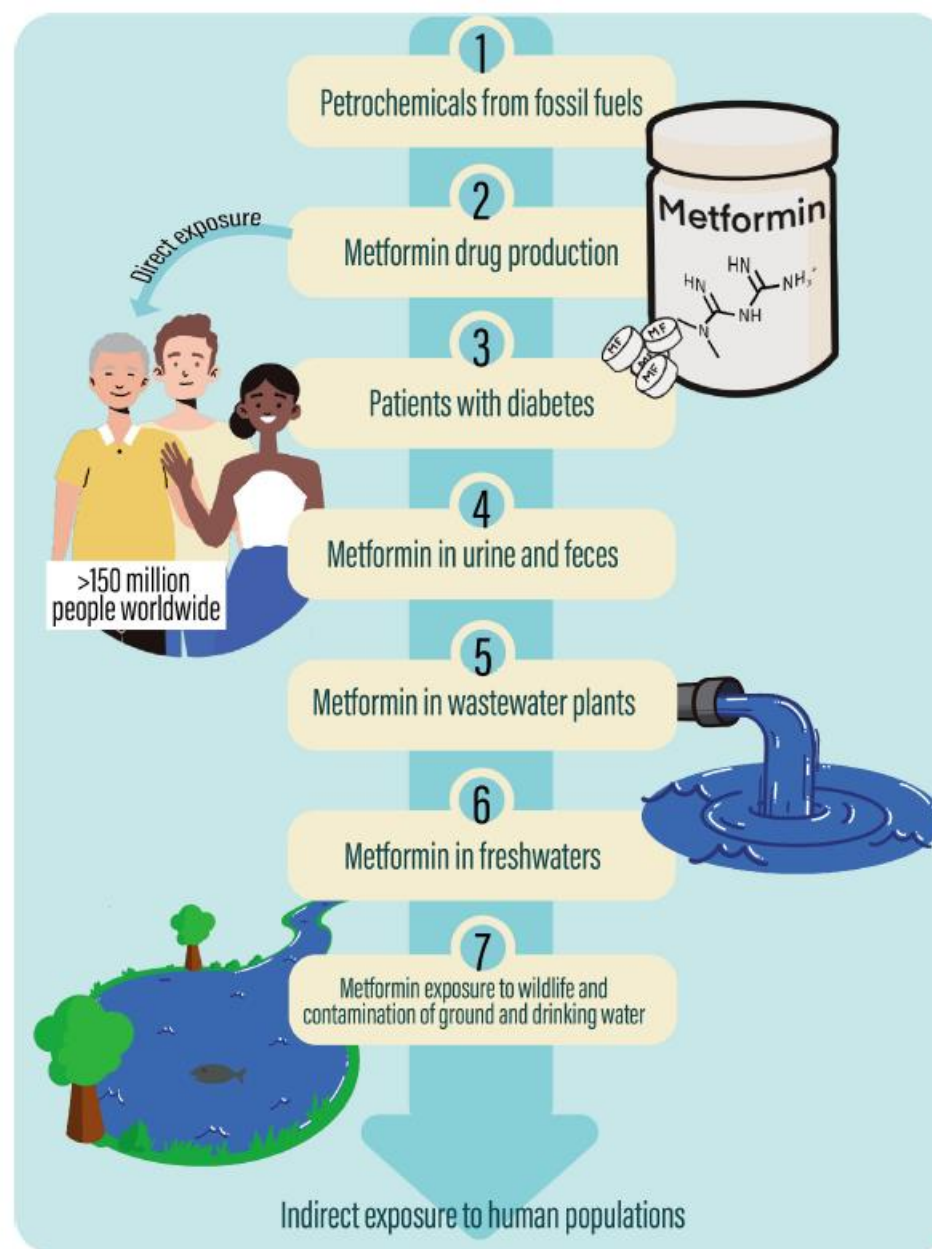


Hay-Schmidt et al 2017

APAP = paracetamol

acetaminophen/paracetamol = APAP

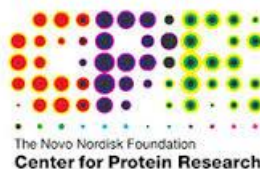
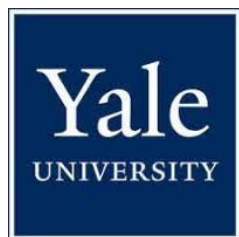




Tavlo et al 2022



Institut national
de la santé et de la recherche médicale



LUNDS
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Mount
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STATENS
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OF QUEENSLAND
AUSTRALIA



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