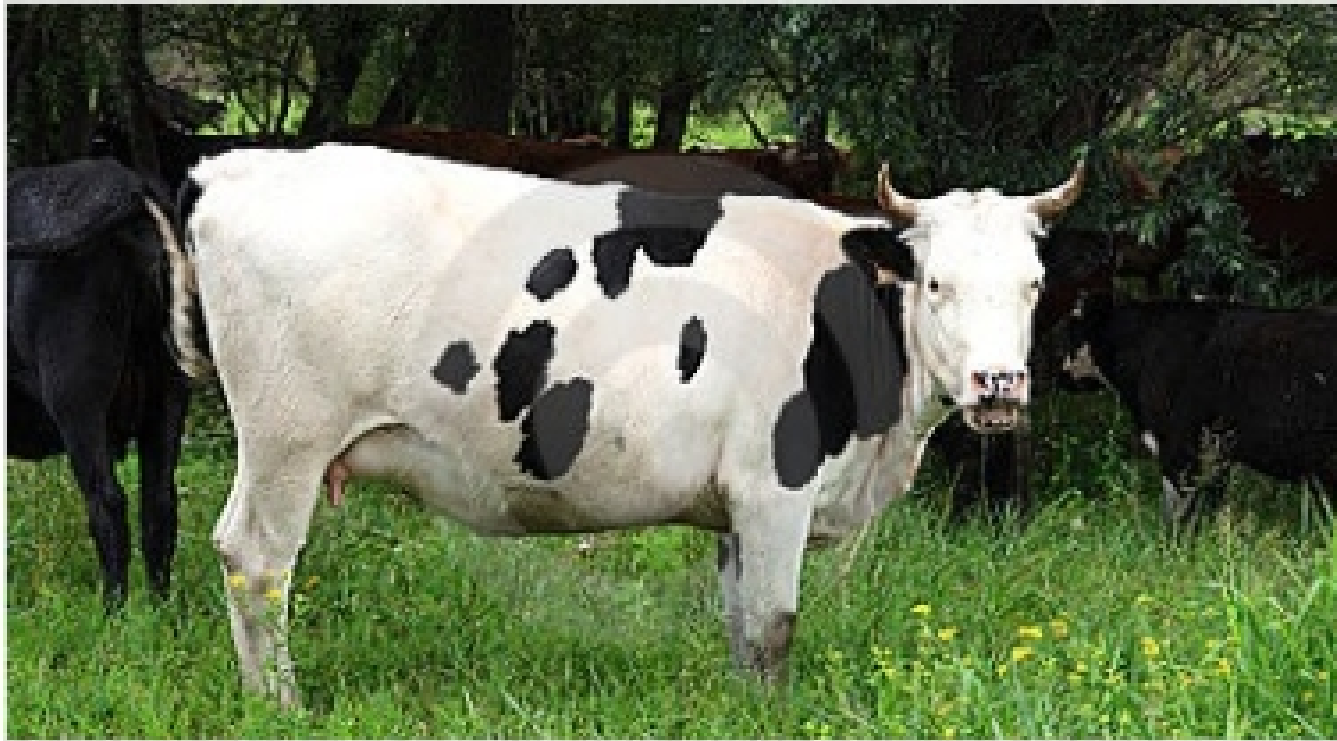


Epigenetics, miRNAs and toxicity

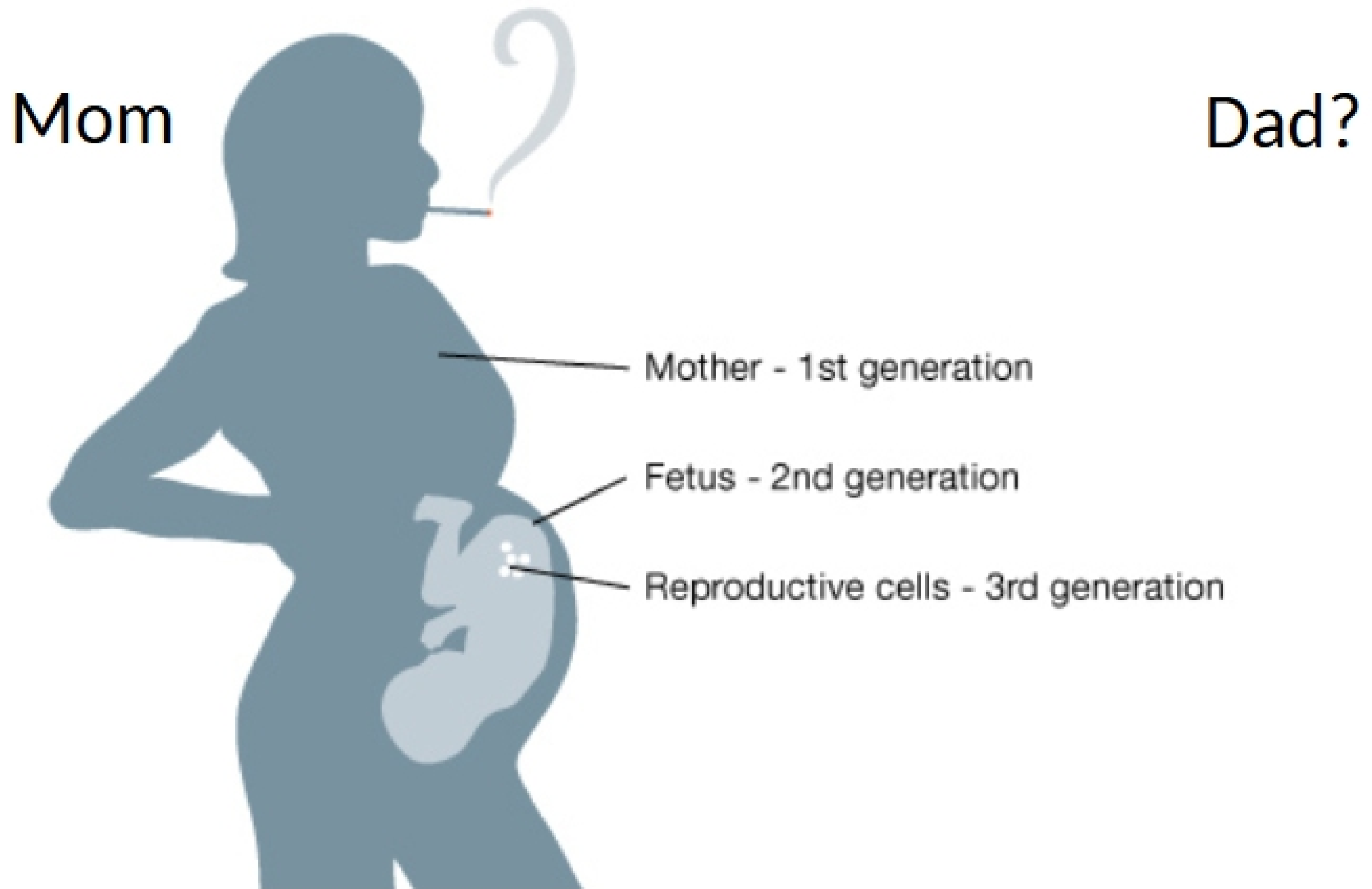
Reversibly changing gene function

GEHS 6600

Epigenetics in action: DNA is the same, but its expression is variable and can respond to environmental signals



Generational and trans-generational effects



Three generations at once are exposed to the same environmental conditions (diet, toxic agents, hormones, etc.). In order to provide a convincing case for epigenetic inheritance, an epigenetic change must be observed in the 4th generation in the case of maternal exposure. (but epigenetic regulation is “plastic”)