

# Simvastatin Dose Response Study

Simvastatin lowers cholesterol by direct inhibition of HMG-CoA reductase, resulting in a reduction in the amount of mevalonate available for cholesterol biosynthesis.

## *Overall Objectives:*

- To determine if simvastatin reduces fetal testosterone like phthalates
- To determine if simvastatin alters maternal and fetal lipids or related genes
- To determine if simvastatin and dipentyl phthalate produce dose additive effects on testosterone production and related genes

*Long-term objective:* To begin more complex mixture studies with several chemicals that alter fetal testosterone, including simvastatin, via distinct modes of action to determine if the effects were additive and later, to examine postnatal effects of simvastatin and mixtures

## *Hypothesis:*

Maternal exposure to simvastatin during the critical period of sex differentiation would lower fetal testicular testosterone production without affecting the genes involved in cholesterol and androgen synthesis and transport