



## METHOD FOR PREVENTING ADVERSE PREGNANCY OUTCOMES DUE TO USE OF SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRI) DURING GESTATION

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Inventors: Laura Hernandez, Rafael Reis Domingues, Milo Wiltbank

### The Invention

UW-Madison researchers have discovered methods for alleviating the adverse effects of SSRIs in pregnancy through the co-administration of the known drug ketanserin. Using several in vivo experimental approaches (sheep, mouse, mutant mouse), the inventors demonstrated that the SSRI inhibition of the maternal serotonin transporter increases maternal circulating serotonin, which affects placental function, which compromises fetal development and leads to adverse effects. The inventors were able to prevent the adverse effects in pregnant mice treated with fluoxetine by using a serotonin receptor 2A/2C antagonist, ketanserin, to prevent increasing serotonin signaling. Ketanserin has been used to prevent serotonin-dependent SSRI-induced vasoconstriction of pulmonary artery and has been given to neonates with pulmonary hypertension. Surprisingly, ketanserin treatment prevented most placental changes and adverse pregnancy and neonatal outcomes caused by SSRI. Importantly, ketanserin does not affect the antidepressant effects of SSRI, allowing women to benefit from the effects of SSRI in the brain without harming pregnancy outcomes. This was the first successful attempt to prevent SSRI-induced adverse pregnancy outcomes and is critical to allow women to benefit from the antidepressant effects of SSRI without compromising fetal health.

### Additional Information

#### For More Information About the Inventors

- [Laura Hernandez](#)
- [Milo Wiltbank](#)

#### Tech Fields

- [Therapeutics & Vaccines : CNS](#)
- [Therapeutics & Vaccines : Other therapeutic technologies](#)
- [Therapeutics & Vaccines : Pulmonary](#)
- [Therapeutics & Vaccines : Reproduction & infertility](#)

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