

Increases in sFLT1 predict the onset of preeclampsia symptoms in mice

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Preeclampsia is a life-threatening pregnancy complication associated with high blood pressure and increased sensitivity to angiotensin II, a hormone that elevates blood pressure.

In this month's issue of the *JCI*, work led by Ananth Karumanchi determined that elevating levels of a protein called soluble fms-like tyrosine kinase 1 (sFLT1) produced preeclampsia-like symptoms in [pregnant mice](#).

Pregnant mice exposed to high levels of sFLT1 had increased responses to angiotensin II, decreases in uterine blood flow, and blood vessel damage that resembled clinical preeclampsia. In human preeclampsia patients and the mouse model, high levels of sFLT1 were also correlated with decreases in production of nitric oxide, which plays an important role in regulating [blood pressure](#).

Treating preeclamptic mice with sildenafil, an FDA-approved drug that enhances nitric oxide-induced dilation of blood vessels, reversed the preeclampsia-like symptoms and improved fetal health.

This study indicates that increases in sFLT1 precede the symptoms of preeclampsia, providing insight into potential strategies for diagnosing and treating this condition.

More information: Suzanne D. Burke et al, Soluble fms-like tyrosine kinase 1 promotes angiotensin II sensitivity in preeclampsia, *Journal of*

Clinical Investigation (2016). [DOI: 10.1172/JCI83918](https://doi.org/10.1172/JCI83918)

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