

Annotated Bibliography – Molecular Biology of Preeclampsia

The Biology of Preeclampsia

Kanasaki, Keizo, and Raghu Kalluri. "The Biology of Preeclampsia." *Kidney International* 76.8 (n.d.): 831-837. Biological Abstracts. Web. 28 Nov. 2016.

The pathogenesis of preeclampsia has not been fully determined, and many possible mechanisms have been suggested. It is also likely that preeclampsia is several diseases with common features, and it is therefore important to investigate different mechanisms. This paper discusses the basic pathology and physiology of preeclampsia including hypertension, the remodeling of spiral arteries, and kidney alterations and proteinuria. The authors then discuss the pathogenesis of preeclampsia including placental hypoxia with subsequent release of placental factors, Th1 immunity and natural killer cells, hypoxia-inducible factors, and catechol-O-methyltransferase/2-methoxyestradiol. This source is good for the introduction section of the paper.

Large Scale Aggregate Microarray Analysis Reveals Three Distinct Molecular Subclasses of Human Preeclampsia

Leavey, Katherine, Shannon A. Bainbridge, and Brian J. Cox. "Large Scale Aggregate Microarray Analysis Reveals Three Distinct Molecular Subclasses of Human Preeclampsia." *Plos ONE* 10.2 (2015): 1-21. Academic Search Complete. Web. 28 Nov. 2016.

These authors analyzed data from previous studies to group preeclamptic patients by gene expression. This revealed three different clusters, with controls in cluster 1 and 3. Cluster 3 patients appeared to have an immune response to pregnancy, whether or not they developed preeclampsia. Cluster 1 patients appeared to be normal pregnancies, with a few possible misdiagnoses. This will go well as the second paragraph to introduce preeclampsia.

Comparison of Normal and Pre-Eclamptic Placental Gene Expression: A Systematic Review with Meta-Analysis

Brew, O., M. H. F. Sullivan, and A. Woodman. "Comparison of Normal and Pre-Eclamptic Placental Gene Expression: A Systematic Review with Meta-Analysis." *Plos ONE* 11.8 (2016): 1-20. Academic Search Complete. Web. 29 Nov. 2016.

Reviews placental gene expression. The important part for my paper is in the end when they talk about immune mechanisms linking maternal syndrome to placental ischemia.

Molecular Mechanisms of Maternal Vascular Dysfunction in Preeclampsia

Goulopoulou, Styliani, and Sandra T Davidge. "Molecular Mechanisms of Maternal Vascular Dysfunction in Preeclampsia." *Trends in Molecular Medicine* 21.2 (2015): 88-97. MEDLINE. Web. 29 Nov. 2016.

Includes good information about placental derived factors and how they relate to oxidative stress. Does not include information on immune mechanisms or details about molecular mechanisms of oxidative stress.

Meta-Analysis of Placental Transcriptome Data Identifies a Novel Molecular Pathway Related to Preeclampsia

van Uiter, Miranda, et al. "Meta-Analysis of Placental Transcriptome Data Identifies a Novel Molecular Pathway Related to Preeclampsia." Plos ONE 10.7 (2015): 1-15. Academic Search Complete. Web. 29 Nov. 2016.

New gene pathway. Probably not useful for my paper as it is too much information.

Molecular Genetics of Preeclampsia and HELLP Syndrome

Jebbink, Jiska, et al. "Review: Molecular Genetics of Preeclampsia and HELLP Syndrome — A Review." BBA - Molecular Basis of Disease 1822. Molecular Genetics of Human Reproductive Failure (2012): 1960-1969. ScienceDirect. Web. 29 Nov. 2016.

Really awesome review of molecular genetics of preeclampsia. Probably not helpful because most information is included elsewhere. Good information about detailed pathways, but not good for paper.

If We Know So Much About Preeclampsia, Why Haven't We Cured the Disease?

Roberts, James M., and Mandy J. Bell. "Review: If We Know So Much About Preeclampsia, Why Haven't We Cured the Disease?" Journal of Reproductive Immunology 99. (2013): 1-9. ScienceDirect. Web. 28 Nov. 2016.

Includes a lot of the same information in the other papers. I probably won't cite it in the paper. Extraneous.