

Accepted Manuscript

Title: The seed to success: The role of seminal plasma in pregnancy

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PII: S0165-0378(17)30084-0
DOI: <http://dx.doi.org/10.1016/j.jri.2017.08.008>
Reference: JRI 2492

To appear in: *Journal of Reproductive Immunology*

Received date: 28-3-2017
Revised date: 30-6-2017
Accepted date: 18-8-2017

Please cite this article as: Nederlof, I., Meuleman, T., van der Hoorn, M.L.P., Claas, F.H.J., Eikmans, M., The seed to success: The role of seminal plasma in pregnancy. *Journal of Reproductive Immunology* <http://dx.doi.org/10.1016/j.jri.2017.08.008>

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The seed to success: the role of seminal plasma in pregnancy

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Highlights

- Seminal plasma contains various immune factors influencing the female immune system
- An optimal balance of pro-inflammatory and immunomodulatory factors in seminal plasma may be beneficial for implantation and placentation
- A disbalanced cytokine profile of seminal plasma potentially results in subfertility and pregnancy complications

Abstract

A lack of immunologic tolerance of the mother toward her child and in placentation can result in early or late pregnancy complications, including implantation failure, miscarriage, preeclampsia, and fetal growth restriction. Seminal plasma has the potential of influencing the maternal immune system for acceptance of the semi-allogeneic fetus. Here we elaborate on studies which provide evidence that an optimal balance of pro-inflammatory and immunomodulatory factors is necessary for the induction of immunologic tolerance and the process of implantation and placentation. Seminal plasma is a source of immunological mediators at conception, which can influence the function of maternal immune cells.

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