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Presenting/Contact Author: Kristina M. T. Hilz
Department/Institution: Obstetrics and Gynecology, University of Greifswald
Address: Ferdinand-Sauerbruch-Straße
City/State/Zip/Country: Greifswald, 17475, Germany
Phone: +4917641563131 **Fax:** **E-mail:** kristinamaria@gmx.de

Keyword 1: Innate Lymphoid Cells 3
Keyword 2: Trophoblast Invasion
Keyword 3: Preeclampsia

1. Abstract Categories: 11.4. Immune Function
2. This material is such that it can only be presented as a poster: No
3. Would the presenting author wish to be considered for the Investigator-In-Training Awards? No
3b. If the presenting author meets all qualifications for a Investigator-In-Training and is selected for a poster, would you like this poster included in the Investigator-In-Training Poster Competition? None selected
4. Laxmi Baxi, PhD Awards: Yes
5. Previously Presented:
Has this abstract been previously presented as it is written? No
Has this abstract been partially presented? No
Presentation Date:
Where was this abstract presented:

6. Data Requirement Questions
My submitted abstract(s) contains original data, written in standard scientific form, complete with numeric values and statistical analyses when appropriate: Yes

If my abstract contains microarray data, all analyses must be accompanied by confirmation of expression changes with either transcript or protein data: Not Applicable

All data derived using the same paradigm (set of patients or experiments) will not be separated into multiple abstracts: Yes

I understand that failure to comply with said requirements will result in abstract dismissal: Yes

7. I will comply with the SRI Abstract Withdrawal Policy: Yes

Title: First-trimester trophoblasts promote differentiation of IL-8 expressing ILC3s.

Kristina M. T. Hilz, †[1], Damián O. Muzzio, Dr.†[1], Laura Núñez Castro, †[1], Christine Lamb, †[1] and Marek Zygmunt, Prof. Dr.[1]*. [1]Obstetrics and Gynecology, University of Greifswald, Greifswald, Germany.

Introduction: One of the essential steps in the establishment of pregnancy is the highly regulated process of trophoblast invasion. Abnormal invasion can lead to severe pregnancy- associated pathologies such as preeclampsia, intrauterine growth-restriction and even loss of the embryo. The recent description of Innate Lymphoid Cells 3 (ILC3) in the uterus, which produce a number of trophoblast-related cytokines, suggests that they might play an important role in this sensitive phase. Here, we studied the influence of the first-trimester trophoblastic cell line HTR-8/SVneo on ILC3s ex vivo.

Methods: PBMCs were isolated by density gradient from healthy non-pregnant fertile women. Cells were then cultivated for 48 h either with or in absence of supernatant from HTR-8/SVneo and the expression of intra- and extracellular markers of ILC3s (lin^-, $RORγT^+$), their cytokine production (IL-8, IL-17, IL-22, IFN-y) and activation markers (CD69) were studied. Appropriate controls and blocking antibodies were used. Detection was performed by Flow Cytometry. Data was analyzed using FlowJo software. Statistical significance was assessed by t-test.

Results: The expression of IL-8 producing ILC3s was more than doubled under the stimulation with supernatant from HTR-8/SVneo ($p<0,05$). Trophoblast supernatant decreased the level of activation of ILC3s as compared to controls ($p<0,001$). The percentage of IFN-y producing ILC3s was elevated.

Conclusions: Our data suggests that trophoblasts may influence ILC3s expression and downregulate their activation in decidua. A possible role of this mechanism in the regulation of trophoblastic invasion and maternal immune response to pregnancy needs further investigation.