

Diabetes impairs multipotent stromal cell antibacterial activity

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A new study reveals that the multipotent stromal cells (MSCs) of persons with diabetes have diminished capacity to fight off bacterial infection, providing new understanding into the basis of diabetes-associated immune dysfunction. The research is published in *Stem Cells and Development*.

Zijun Zhang and colleagues from the Orthobiologic Laboratory at MedStar Union Memorial Hospital, Baltimore, MD, present their work in an article titled "Compromised Antibacterial Function of Multipotent Stromal Cells in Diabetes". To identify this diminished antibacterial activity, the authors isolated MSCs from the bone marrow of diabetic and non-diabetic donors and tested the effects of the cells' supernatants on bacterial growth. The authors also showed that the co-culture of diabetes-associated MSCs with macrophages inhibits bacterial phagocytosis, and additional experiments addressed the [gene expression](#) and cytokine production responsible for these effects.

"Given the proposed use of MSCs as a therapeutic strategy in the treatment of diabetes, the careful consideration of the implications of these data for this and other [autoimmune disorders](#) are highly recommended," says Editor-in-Chief Graham C. Parker, Ph.D., The Carman and Ann Adams Department of Pediatrics, Wayne State University School of Medicine, Detroit, MI.

More information: Young Cho et al, Compromised Antibacterial Function of Multipotent Stromal Cells in Diabetes, *Stem Cells and Development* (2018). [DOI: 10.1089/scd.2018.0219](https://doi.org/10.1089/scd.2018.0219)

Provided by Mary Ann Liebert, Inc

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