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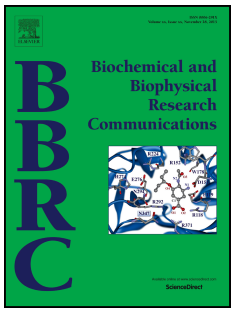

Hypoxia potentiates LPS-induced inflammatory response and increases cell death by promoting NLRP3 inflammasome activation in pancreatic β cells

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PII: S0006-291X(17)32534-2

DOI: 10.1016/j.bbrc.2017.12.134

Reference: YBBRC 39134

To appear in: *Biochemical and Biophysical Research Communications*

Received Date: 19 December 2017

Accepted Date: 22 December 2017

Please cite this article as: C. Chen, X. Ma, C. Yang, W. Nie, J. Zhang, H. Li, P. Rong, S. Yi, W. Wang, Hypoxia potentiates LPS-induced inflammatory response and increases cell death by promoting NLRP3 inflammasome activation in pancreatic β cells, *Biochemical and Biophysical Research Communications* (2018), doi: 10.1016/j.bbrc.2017.12.134.

Hypoxia potentiates LPS-induced inflammatory response and increases cell death by promoting NLRP3 inflammasome activation in pancreatic β cells

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Abstract

Hypoxia and islet inflammation are involved in β-cell failure in type 2 diabetes (T2D). Elevated plasma LPS levels have been verified in patients with T2D, and hypoxia occurs in islets of diabetic mice. Activation of inflammasomes in ischemic or hypoxic conditions was identified in various tissues. Here, we investigated whether hypoxia activates the inflammasome in β cells and the possible mechanisms involved. In mouse insulinoma cell line 6 (MIN6), hypoxia (1% O_2) primes the NLRP3 inflammasome along with NF-κB signaling activation. Our results demonstrate that hypoxia can activate the NLRP3 inflammasome in LPS-primed MIN6 to result in initiating the β cell inflammatory response