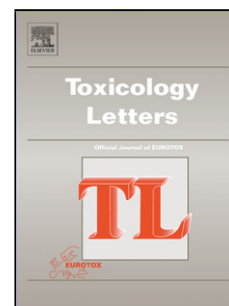


## Accepted Manuscript

Title: Dibutyl phthalate modulates phenotype of granulocytes in human blood in response to inflammatory stimuli

Authors: Danay Maestre-Batlle, Olga M. Pena, Ryan D. Huff, Abnashi Randhawa, Christopher Carlsten, Anette K. Bølling



PII: S0378-4274(18)31533-9  
DOI: <https://doi.org/10.1016/j.toxlet.2018.07.046>  
Reference: TOXLET 10284

To appear in: *Toxicology Letters*

Received date: 2-3-2018  
Revised date: 29-6-2018  
Accepted date: 24-7-2018

Please cite this article as: Maestre-Batlle D, Pena OM, Huff RD, Randhawa A, Carlsten C, Bølling AK, Dibutyl phthalate modulates phenotype of granulocytes in human blood in response to inflammatory stimuli, *Toxicology Letters* (2018), <https://doi.org/10.1016/j.toxlet.2018.07.046>

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**Title:** Dibutyl phthalate modulates phenotype of granulocytes in human blood in response to inflammatory stimuli.

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#### Highlights

- Dibutyl phthalate (DBP) is a commonly used plasticizer with limited experimental data to reflect concerns for immune-modulating properties emerging from epidemiological studies.
- DBP dampened the release of inflammatory mediators TNF $\alpha$  and IFN $\gamma$ , and altered the expression of surface markers in human granulocytes, in response to immune stimuli *in vitro*.
- The whole blood assay is a valuable model to study effects of environmental contaminants on inflammation and cellular immune function, but the current results merit further *in vitro* and *in vivo* investigations.

#### ABSTRACT

**Background:** Phthalates are plasticizers used in many common commercial products. They are ubiquitous environmental contaminants and epidemiological studies suggest that

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