

Author's Accepted Manuscript

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PII: S0014-2999(18)30260-7
DOI: <https://doi.org/10.1016/j.ejphar.2018.05.003>
Reference: EJP71785

To appear in: *European Journal of Pharmacology*

Received date: 4 April 2018
Revised date: 25 April 2018
Accepted date: 4 May 2018

Cite this article as: Meng Li, Betty C.A.M van Esch, Gerry T.M. Wagenaar, Johan Garssen, Gert Folkerts and Paul A.J. Henricks, Pro- and anti-inflammatory effects of short chain fatty acids on immune and endothelial cells, *European Journal of Pharmacology*, <https://doi.org/10.1016/j.ejphar.2018.05.003>

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Pro- and anti-inflammatory effects of short chain fatty acids on immune and endothelial cells

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Abstract

In the gastro-intestinal tract, short chain fatty acids (SCFAs) have protective effects on epithelial cells. However, their effects on inflammatory cytokine production by endothelial and immune cells and the recruitment of immune cells and their trans-migration across the endothelial layer remain controversial. Both cell types are associated with the initiation and development of inflammatory diseases, such as atherosclerosis and sepsis. SCFAs modulate immune and inflammatory responses via activation of free fatty acid (FFA) receptors type 2 and 3 (FFA2 and FFA3 receptors), G protein-coupled receptor 109A (GPR109A) and inhibition of histone deacetylases (HDACs). This review will

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