

Publication**AIM2 inflammasome is activated by pharmacological disruption of nuclear envelope integrity****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 3576908**Author(s)** Di Micco, Antonia; Frera, Gianluca; Lugin, Jérôme; Jamilloux, Yvan; Hsu, Erh-Ting; Tardivel, Aubry; De Gassart, Aude; Zaffalon, Léa; Bujisic, Bojan; Siegert, Stefanie; Quadroni, Manfredo; Broz, Petr; Henry, Thomas; Hrycyna, Christine A; Martinon, Fabio**Author(s) at UniBasel** [Broz, Petr](#) ;**Year** 2016**Title** AIM2 inflammasome is activated by pharmacological disruption of nuclear envelope integrity**Journal** Proceedings of the National Academy of Sciences of the United States of America**Volume** 113**Number** 32**Pages / Article-Number** E4671-80

Inflammasomes are critical sensors that convey cellular stress and pathogen presence to the immune system by activating inflammatory caspases and cytokines such as IL-1 β . The nature of endogenous stress signals that activate inflammasomes remains unclear. Here we show that an inhibitor of the HIV aspartyl protease, Nelfinavir, triggers inflammasome formation and elicits an IL-1R-dependent inflammation in mice. We found that Nelfinavir impaired the maturation of lamin A, a structural component of the nuclear envelope, thereby promoting the release of DNA in the cytosol. Moreover, deficiency of the cytosolic DNA-sensor AIM2 impaired Nelfinavir-mediated inflammasome activation. These findings identify a pharmacologic activator of inflammasome and demonstrate the role of AIM2 in detecting endogenous DNA release upon perturbation of nuclear envelope integrity.

Publisher National Academy of Sciences**ISSN/ISBN** 0027-8424**edoc-URL** <http://edoc.unibas.ch/43806/>**Full Text on edoc** No;**Digital Object Identifier DOI** 10.1073/pnas.1602419113**PubMed ID** <http://www.ncbi.nlm.nih.gov/pubmed/27462105>**ISI-Number** WOS:000381293300015**Document type (ISI)** Journal Article