



**Albert Einstein College of Medicine  
Department of Microbiology and Immunology**

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Re: Reference letter for Abdelkrim Alileche

To whom it may concern,

It is with great honor that I recommend Dr. Abdelkrim Alileche to the faculty position. Dr. Alileche worked as a postdoctoral fellow in my lab for 2.5 years. He started a new position at Columbia University in January of 2005. At the time when Abdelkrim joined the group, my lab was working exclusively with retroviruses. He started working in the anthrax field, and he moved my lab into this new direction. For the first year he was the only labmember working on the anthrax project, but after one year two student volunteers worked under his direction. During his stay in my lab, he established new systems and introduced multiple new techniques in the lab. His work led to fundamental findings in anthrax research. He is a coauthor on a published study and he is the first author on two manuscripts, which were submitted to two major journals.

Abdelkrim is very intelligent and works extremely hard. He is an excellent scientist, with a tremendous understanding of immunology and the pathogenesis of human diseases. His technical skills and his ability to establish new systems within a short period of time made him the driving force in my lab. His experiments were very well designed and highly reproducible. He established several fundamental assays that allowed him to dissect killing of specific target cells by the anthrax lethal toxin. Within a short period he was able to dissect the role of proteasomes in anthrax-mediated cell killing. He found that proteasomal activity is absolutely required for killing of target cells by the toxin. He showed that proteasomes target long-lived protective factors in this process, and that degradation of these proteins is directly linked to a loss of mitochondrial activity, mitochondrial depolarization and finally cell death. Recently, we submitted a manuscript describing these important findings.

Abdelkrim thinks very clearly and does not take common beliefs for granted. His background in immunology was extremely useful in this quest to understand anthrax disease progression. • Hematopoietic cells have been suggested to play a key role in anthrax pathogenesis. In collaboration with Steven Porcelli, a world-renowned immunologist at Albert Einstein College of Medicine, he found that the anthrax lethal toxin (LT) efficiently kills murine and human dendritic cells (DCs) *in vitro*, as well as in LT-injected mice. He showed that the susceptibility to LT, as well as cell death

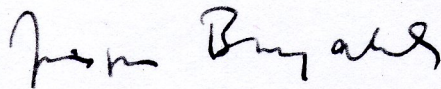


pathways induced by LT, are dependent on the genetic background of murine DCs. LT treatment triggered rapid induction of necrotic pathways in BALB/c-derived DCs, and slow apoptosis in C57BL/6-derived DCs. This is consistent with the more rapid onset of lethal effects in LT-injected mice of the corresponding genetic background. As expected, LT treatment also diminished the ability of DCs to stimulate heterologous T cells. Taken together, killing of dendritic cells by the anthrax toxin by *Bacillus anthracis* disables the innate immune response and contributes to disease progression. These findings challenge a recent paper in "Nature" stating that DCs are not killed by the anthrax toxin. The manuscript of this work has been recently submitted.

In addition, Abdelkrim cloned three toxin receptors, and using them, created flag tag fusion proteins within a short period of time. This work was subsequently used to identify the cellular localization of these receptors. This project was performed in collaboration with Michael Lisanti at AECOM, and a manuscript of this work has been published in "Am. J. Cell. Physiol. 2005 Feb 2; PMID: 15689409."

In conclusion, Abdelkrim is a highly intelligent and enthusiastic scientist, who works very hard and scrutinizes scientific questions very closely. I am convinced that he will be a great addition to the faculty position in question. Please do not hesitate to contact me should you have additional questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Jürgen Brojatsch". The signature is fluid and cursive, with the first name "Jürgen" and last name "Brojatsch" clearly distinguishable.

Jürgen Brojatsch, Ph.D.