Investigations on a Novel Dendritic Cell-Targeted Adjuvant for Anti-Cancer Therapy

Laursen, Marlene Fyrstenberg; Agger, Ralf; Kofod-Olsen, Emil

Publication date:
2018

Document Version
Early version, also known as pre-print

Link to publication from Aalborg University

Citation for published version (APA):

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

? Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
? You may not further distribute the material or use it for any profit-making activity or commercial gain
? You may freely distribute the URL identifying the publication in the public portal

Take down policy
If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from vbn.aau.dk on: april 09, 2019
Investigations on a Novel Dendritic Cell-Targeted Adjuvant for Anti-Cancer Therapy
Marlene Fyrstenberg Laursen¹, Ralf Agger¹ and Emil Kofod-Olsen¹
¹Laboratory of Immunology and Cancer Biology,
Department of Health Science and Technology,
Aalborg University, Aalborg, Denmark

Immunotherapy has recently emerged as a promising form of treatment for several kinds of cancer. With the introduction of check-point blockade therapy remarkable results in a subset of patients have been observed. However, some patients do not benefit from this treatment, possibly due to the strength of the immunosuppressive tumor environment in these patients. To circumvent this, finding novel approaches for activation of the immune system is of high priority. Damage-associated molecular patterns (DAMPs) delivered to dendritic cells (DCs) in situ may aid in overcoming the suppressive tumor milieu and lead to DC maturation and activation of an efficient immune response. Recent evidence has shown that the cGAS/STING pathway, which can be stimulated by dsDNA, a potent DAMP, plays an important role in immune activation against cancer in murine tumor models.

We have developed a novel DC-targeted adjuvant and tested it on human dendritic cells in vitro. We found that the targeted adjuvant was indeed able to activate human DCs, shown by upregulation of DC maturation markers and an increased ability to activate T cells. We have also shown that the observed maturation of human DCs is indeed dependent on the cGAS/STING pathway.