

Emil Kofod-Olsen  
Associate Professor  
Department of Health Science and Technology  
The Faculty of Medicine  
Medical Microbiology and Immunology  
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## Employment

### Associate Professor

Department of Health Science and Technology  
The Faculty of Medicine  
Aalborg Øst, Denmark  
1 Feb 2015 → present

### Associate Professor

The Faculty of Medicine  
Aalborg Øst, Denmark  
1 Feb 2015 → present

### Medical Microbiology and Immunology

The Faculty of Medicine  
Aalborg, Denmark  
1 Jan 2020 → present

## Research outputs

**Activation of dendritic cells by targeted DNA: a potential addition to the armamentarium for anti-cancer immunotherapy**  
Fyrstenberg Laursen, M., Kofod-Olsen, E. & Agger, R., Nov 2019, In: Cancer Immunology, Immunotherapy. 68, 11, p. 1875-1880 6 p.

**Analysis of Type 1 IFN Production by DCs after Stimulation with Supernatant of Necroptotic Cells**  
Zeiler, C., Banasik, A., Laursen, M. F., Agger, R. & Kofod-Olsen, E., 16 May 2019.

### CD11c-targeted dendritic cell vaccine

Fredriksen, L., Laursen, M. F., Birkelund, S., Agger, R. & Kofod-Olsen, E., 16 May 2019.

### Generation of a recombinant CD11c-targeted vaccine containing SIINFEKL antigen

Nielsen, L., Laursen, M. F., Agger, R. & Kofod-Olsen, E., 16 May 2019.

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

Laursen, M. F., Agger, R. & Kofod-Olsen, E., 3 Oct 2018.

### CD11c-targeted delivery of DNA to dendritic cells leads to cGAS- and STING-dependent maturation

Laursen, M. F., Christensen, E., Degn, L. L. T., Jønsson, K., Jakobsen, M. R., Agger, R. & Kofod-Olsen, E., 2018, In: Journal of Immunotherapy. 41, 1, p. 9-18 10 p.

#### **Targeting cGAS and STING in human dendritic cells**

Laursen, M. F., Agger, R. & Kofod-Olsen, E., 2018, In: *European Journal of Immunology*. 48, Suppl. 1, p. 162-163 P-249.

#### **Ectodermal dysplasia with immunodeficiency caused by a branch-point mutation in IKBKG/NEMO**

Jørgensen, S. E., Bøttger, P., Kofod-Olsen, E., Holm, M., Mørk, N., Ørntoft, T. F., Sørensen, U. B. S., Bernth-Jensen, J. M., Herlin, T., Veirum, J., Larsen, C. S., Østergaard, L., Hartmann, R., Christiansen, M. & Mogensen, T. H., 29 Jun 2016, In: *Journal of Allergy and Clinical Immunology*.

#### **Altered fraction of regulatory B and T cells is correlated with autoimmune phenomena and splenomegaly in patients with COVID**

Kofod-Olsen, E., Jørgensen, S. E., Nissen, S. K., Westh, L., Møller, B. K., Østergaard, L., Larsen, C. S. & Mogensen, T. H., 2016, In: *Clinical Immunology*. 162, 1, p. 49-57 9 p.

#### **Development and experimental analyses of a novel fusion protein vaccine cassette and its interactions with dendritic cells**

Christensen, E., Birkelund, S., Kofod-Olsen, E. & Agger, R., 2016, *Danish Society of Immunology, Annual Meeting, 19 April 2016, Copenhagen, Denmark*. Danish Society of Immunology, p. 11 No. 8

#### **Human CD11c as a potential receptor for targeted vaccines**

Pedersen, L. L., Prangsgaard, J., Sanden, M., Kofod-Olsen, E. & Agger, R., 2016, *Danish Society of Immunology, Annual Meeting, 19 April 2016, Copenhagen, Denmark*. Danish Society of Immunology, p. 10 No. 7

#### **The delivery of double-stranded DNA to dendritic cells and its effect on dendritic cell maturation**

Laursen, M. F., Kofod-Olsen, E. & Agger, R., 2016, *Danish Society of Immunology, Annual Meeting, 19 April 2016, Copenhagen, Denmark*. Danish Society of Immunology, p. 21 No. 18

#### **Mutations in the TLR3 signaling pathway and beyond in adult patients with herpes simplex encephalitis**

Mørk, N., Kofod-Olsen, E., Sørensen, K. B., Bach, E., Ørntoft, T. F., Østergaard, L., Paludan, S. R., Christiansen, M. & Mogensen, T. H., 29 Oct 2015, In: *Genes and Immunity*.

#### **A STAT1-gain-of-function mutation causing Th17 deficiency with chronic mucocutaneous candidiasis, psoriasiform hyperkeratosis and dermatophytosis**

Nielsen, J., Kofod-Olsen, E., Spaun, E., Larsen, C. S., Christiansen, M. & Mogensen, T. H., Oct 2015, In: *B M J Case Reports*. 2015

#### **Functional IRF3 deficiency in a patient with herpes simplex encephalitis**

Andersen, L. L., Mørk, N., Reinert, L. S., Kofod-Olsen, E., Narita, R., Jørgensen, S. E., Skipper, K. A., Höning, K., Gad, H. H., Østergaard, L., Ørntoft, T. F., Hornung, V., Paludan, S. R., Mikkelsen, J. G., Fujita, T., Christiansen, M., Hartmann, R. & Mogensen, T. H., 27 Jul 2015, In: *The Journal of Experimental Medicine*.

#### **Innate DNA sensing is impaired in HIV patients and IFI16 expression correlates with chronic immune activation**

Nissen, S. K., Højten, J. F., Andersen, K. L. D., Kofod-Olsen, E., Berg, R. K., Paludan, S. R., Østergaard, L., Jacobsen, M. R., Tolstrup, M. & Mogensen, T. H., Jul 2014, In: *Clinical and Experimental Immunology*. 177, 1, p. 295-309 15 p.

#### **The DR6 protein from human herpesvirus-6B induces p53-independent cell cycle arrest in G2/M**

Schleimann, M. H., Hoberg, S., Hansen, A. S., Bundgaard, B., Witt, C. T., Kofod-Olsen, E. & Höllsberg, P., Mar 2014, In: *Virology*. 452-453, p. 254-63 10 p.

#### **Human herpesvirus-6B protein U19 contains a p53 BOX I homology motif for HDM2 binding and p53 stabilization**

Kofod-Olsen, E., Petterson, S., Wallace, M., Abduljabar, A. B., Øster, B., Hupp, T. & Höllsberg, P., Jan 2014, In: *Virology*. 488, p. 33-42 10 p.

#### **T cells detect intracellular DNA but fail to induce type I IFN responses: implications for restriction of HIV replication**

Berg, R. K., Rahbek, S. H., Holm, C. K., Melchjorsen, J., Jensen, D. G., Kofod-Olsen, E., Hansen, A. L., Jørgensen, L. B., Østergaard, L., Tolstrup, M., Larsen, C. S., Paludan, S. R., Jakobsen, M. R. & Mogensen, T. H., 2014, In: *PLOS ONE*. 9, 1, p. e84513

**The B1-cell subpopulation is diminished in patients with relapsing-remitting multiple sclerosis**

Tørring, C., Petersen, C. C., Bjerg, L., Kofod-Olsen, E., Petersen, T. & Höllsberg, P., 15 Sep 2013, In: Journal of Neuroimmunology. 262, 1-2, p. 92-98 p.

**Identification of innate immunodeficiencies by whole exome sequencing**

Mogensen, T., Christiansen, M., Kofod-Olsen, E., Veirum, J. E., Herlin, T., Ørntoft, T. F., Larsen, C. S. & Østergaard, L., 2013, In: Clinical and Experimental Immunology. 174, Suppl. S1, p. 24 P50.

**Inhibition of p53-dependent, but not p53-independent, Cell Death by U19 Protein from Human Herpesvirus 6B**

Kofod-Olsen, E., Møller, J. L. M., Schleimann, M. H., Bundgaard, B., Bak, R. O., Øster, B., Mikkelsen, J. G., Hupp, T. & Höllsberg, P., 2013, In: PLoS One. 8, 3

**Seminal Shedding of Human Papillomavirus and Human Herpesvirus**

Kaspersen, M. D., Larsen, P. B., Ingerslev, H. J., Fedder, J., Bungum, M., Kofod-Olsen, E., Höllsberg, P. & Bonde, J. H., 2013, In: APMIS - Journal of Pathology, Microbiology and Immunology. 121, p. 26-27 2 p.

**U20 inhibits death receptor and pattern-recognition receptor signaling in vitro, but increases inflammation in vivo**

Kofod-Olsen, E., Bak, R. O., Jensen, S. B., Dagnæs-Hansen, F., Holm, C. K., Deleuran, B. W. & Höllsberg, P., 2013.

**U20 is responsible for human herpesvirus 6B inhibition of tumor necrosis factor receptor-dependent signaling and apoptosis**

Kofod-Olsen, E., Ross-Hansen, K., Schleimann, M. H., Jensen, D. K., Møller, J. M. L., Bundgaard, B., Mikkelsen, J. G. & Höllsberg, P., Nov 2012, In: Journal of Virology. 86, 21, p. 11483-92 10 p.

**Targeted genome editing by recombinant adeno-associated virus (rAAV) vectors for generating genetically modified pigs**

Luo, Y., Kofod-Olsen, E., Christensen, R., Sørensen, C. B. & Bolund, L., 20 Jun 2012, In: Journal of Genetics and Genomics. 39, 6, p. 269-74 6 p.

**Human herpesvirus-6A/B binds to spermatozoa acrosome and is the most prevalent herpesvirus in semen from sperm donors**

Kaspersen, M. D., Larsen, P. B., Kofod-Olsen, E., Fedder, J., Bonde, J. & Höllsberg, P., 2012, In: PLOS ONE. 7, 11, p. e48810

**U20 Is Responsible for Human Herpesvirus 6B Inhibition of TNF Receptor-Dependent Signaling and Apoptosis**

Kofod-Olsen, E., Schleimann, M. H., Jensen, D. K. & Höllsberg, P., 2012.

**Human herpes virus 6 and 7 u20 polypeptide and polynucleotides for use as a medicament or diagnosticum**

Kofod-Olsen, E. & Höllsberg, P., 2011, Patent No. WO/2011/095174 A1

**Inhibition of apoptosis by human herpesvirus-6B infection: PhD dissertation**

Kofod-Olsen, E., 2011, 121 p. Faculty of Health Sciences, University of Aarhus.

**Regulation of apoptosis by HHV-6B infection**

Kofod-Olsen, E. & Höllsberg, P., 2011.

**Expression of MDC/CCL22 and its receptor CCR4 in rheumatoid arthritis, psoriatic arthritis and osteoarthritis**

Flyttie, H. A., Hvid, M., Lindgreen, E., Kofod-Olsen, E., Petersen, E. L., Jørgensen, A., Deleuran, M., Vestergaard, C. & Deleuran, B., Jan 2010, In: Cytokine. 49, 1, p. 24-9 6 p.

**Human herpesvirus-6B blocks induction of p53-dependent but not -independent apoptosis**

Kofod-Olsen, E., Mikkelsen, J. G. & Höllsberg, P., 2010.

**Human herpesvirus 6B induces phenotypic maturation without IL-10 and IL-12p70 production in dendritic cells**  
Berthelsen, L. B., Pedersen, C. C., Kofod-Olsen, E., Oster, B., Höllsberg, P., Agger, R. & Hokland, M., 2010, In: Scandinavian Journal of Immunology. 71, 6, p. 431-439 9 p.

**Osteopontin enhances phagocytosis through a novel osteopontin receptor, the alphaXbeta2 integrin**  
Schack, L., Stapulionis, R., Christensen, B., Kofod-Olsen, E., Skov Sørensen, U. B., Vorup-Jensen, T., Sørensen, E. S. & Höllsberg, P., 1 Jun 2009, In: Journal of Immunology. 182, 11, p. 6943-50 8 p.

**Direct Repeat 6 from human herpesvirus-6B encodes a nuclear protein that forms a complex with the viral DNA processivity factor p41**  
Schleimann, M. H., Møller, J. M. L., Kofod-Olsen, E. & Höllsberg, P., 2009, In: PLOS ONE. 4, 10, p. e7457

**Human herpesvirus 6B U19 protein is a PML-regulated transcriptional activator that localizes to nuclear foci in a PML-independent manner**  
Kofod-Olsen, E., Ross-Hansen, K., Mikkelsen, J. G. & Höllsberg, P., Jan 2008, In: Journal of General Virology. 89, Pt 1, p. 106-16 11 p.

**Characterization of the IE4 protein encoded by the human herpesvirus 6B U19 ORF**  
Kofod-Olsen, E., Ross-Hansen, K., Mikkelsen, J. G. & Höllsberg, P., 2008.

**Restriction of human herpesvirus 6B replication by p53**  
Oster, B., Kofod-Olsen, E., Bundgaard, B. & Höllsberg, P., 2008, In: Journal of General Virology. 89, Pt 5, p. 1106-13 8 p.

**Human herpesvirus 6B inhibits cell proliferation by a p53-independent pathway**  
Øster, B., Kaspersen, M. D., Kofod-Olsen, E., Bundgaard, B. & Höllsberg, P., Dec 2006, In: Journal of Clinical Virology. 37 Suppl 1, p. S63-8

## Activities

**Department of Health Science and Technology (Organisational unit)**  
Emil Kofod-Olsen (Chairman)  
1 Jun 2021

**Technical University of Denmark (External organisation)**  
Emil Kofod-Olsen (Member)  
31 Jan 2021

**European Macrophage and Dendritic cell Society (External organisation)**  
Emil Kofod-Olsen (Member)  
2021

**Technical University of Denmark (External organisation)**  
Emil Kofod-Olsen (Member)  
4 Feb 2020

**Danish Society of Immunology (External organisation)**  
Emil Kofod-Olsen (Secretary)  
2017

**Scandinavian Society of Immunology (External organisation)**  
Emil Kofod-Olsen (Member)  
2017

**Danish Society for Flow cytometry (External organisation)**

Emil Kofod-Olsen (Member)

2016

**Press/Media**

**Knæk Cancer på tur til fire danske byer**

Emil Kofod-Olsen

11/10/2017

4 items of Media coverage

**Projects**

**EPIC-1: A phase II Study of Electroporation Potentiated Immunotherapy in Liver Metastatic Pancreatic Cancer**

Flak, R. V., Ladekarl, M., Poulsen, L. Ø., Thorlacius-Ussing, O., Stender, M., Detlefsen, S., Agger, R., Kofod-Olsen, E. & Wanders, A.

01/01/2021 → 31/12/2025

**Dendritic cell-targeted vaccination**

Kofod-Olsen, E. & Agger, R.

01/09/2016 → ...

**Inflammatory cell death and dendritic cell activation in the tumor microenvironment**

Kofod-Olsen, E.

01/09/2017 → ...

**STING-targeted immunotherapy**

Kofod-Olsen, E.

01/05/2018 → ...