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Kort præsentation

My research has focused on understanding the development of different inflammatory skin diseases including psoriasis, atopic dermatitis (AD), and vitiligo, and the role of keratinocytes and microRNAs in this. The prevalence of inflammatory skin diseases is increasing therefore it is crucial to understand how these diseases develop and what cells and molecular pathways are involved in this. In greater detail, I have mainly worked on projects focusing on the role of miRNAs in psoriasis and AD and how miRNAs regulate the immune responses and proliferation of keratinocytes. In my previous work leading to three first-author publications, I demonstrated that miR-146a/b and miR-10a inhibit inflammation and proliferation of keratinocytes by regulating the activity of the NF-κB pathway.
In recent years my interest has shifted to the role of T cells in inflammatory skin diseases as I have always found the field of immunology and the role of T cells in immunological responses fascinating. My current work focuses on different epidermal T-cell subsets in response to different contact allergens however this is in line with my main research interest which is microRNAs in the development of skin diseases, however now I intend to determine their role in tissue-resident memory cells in the context of allergic contact dermatitis.

Kvalifikationer

Medicine, PhD, University of Tartu
31 aug. 2015 → 19 nov. 2020
Dimissionsdato: 19 nov. 2020

Biomedicine, MSc (cum laude), University of Tartu
2 sep. 2013 → 17 jun. 2015
Dimissionsdato: 17 jun. 2015

Genetechnology, BSc, University of Tartu
30 aug. 2010 → 17 jun. 2013
Dimissionsdato: 17 jun. 2013

Ansættelse

Ekstern postdoc

Skin Immunology Research Center
Københavns Universitet
København N.
1 jan. 2022 → nu

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Postdoctoral Researcher

University of Tartu
Tartu, Estland
1 jan. 2021 → 31 dec. 2021

Co-lecturer for molecular biology practical course for medical students

University of Tartu
Tartu, Estland
1 sep. 2018 → 31 dec. 2021

Specialist for the Clinical Research Centre
Tartu University Hospital
Tartu, Estland
1 feb. 2018 → 30 sep. 2020

Junior Research Fellow in Biomedicine and Translational Medicine
University of Tartu
Tartu, Estland
1 sep. 2017 → 31 aug. 2019

Publikationer

Metabolic re-programming of keratinocytes in response to contact allergens
Menzel, Mandy, Mraz, Veronika, Vaher, Helen, Geisler, Carsten & Bonefeld, Charlotte Menne, 2024, I: Contact Dermatitis. 90, 3, s. 235-244

Subclinical immune responses to nickel in sensitized individuals—a dose–response study
Wennervaldt, M., Vaher, Helen, Ahlström, M. G., Bischofberger, N., Menné, T., Thyssen, Jacob Pontoppidan, Johansen, Jeanne Duus & Bonefeld, Charlotte Menne, 2024, (Accepteret/In press) I: Contact Dermatitis.

Skin Colonization with S. aureus Can Lead to Increased NLRP1 Inflammasome Activation in Patients with Atopic Dermatitis
Vaher, Helen, Kingo, K., Kolberg, P., Pook, M., Raam, L., Laanesoo, A., Remm, A., Tenson, T., Alasoo, K., Mrowietz, U., Weidinger, S., Kingo, K. & Rebane, A., 2023, I: Journal of Investigative Dermatology.

The junctional adhesion molecule-like protein (JAML) is important for the inflammatory response during contact hypersensitivity
Mraz, Veronika, Lohmann, R. K. D., Menzel, Mandy, Hawkes, A., Vaher, Helen, Funch, Anders Boutrup, Jee, Mia Hamilton, Gadsbøll, A. S. Ø., Weber, Julie Friis, Yeung, Kelvin, Ødum, Niels, Woetmann, Anders , McKay, D., Witherden, D., Geisler, Carsten & Bonefeld, Charlotte Menne, 2023, I: Contact Dermatitis. 89, 5, s. e63-e65

miRNA expression profiles of the perilesional skin of atopic dermatitis and psoriasis patients are highly similar
Carreras-Badosa, G., Maslovskaja, J., Vaher, Helen, Pajusaar, L., Annilo, T., Lättekivi, F., Hübenthal, M., Rodriguez, E., Weidinger, S., Kingo, K. & Rebane, A., 2022, I: Scientific Reports. 12, 22645.

Impact of AHR ligand TCDD on human embryonic stem cells and early differentiation
Teino, I., Matvere, A., Pook, M., Varik, I., Pajusaar, L., Uudeküll, K., Vaher, Helen, Trei, A., Kristjuhan, A., Org, T. & Maimets, T., 2020, I: International Journal of Molecular Sciences. 21, 23, s. 1-24 24 s., 9052.

NickFect type of cell-penetrating peptides present enhanced efficiency for microRNA-146a delivery into dendritic cells and during skin inflammation
Carreras-Badosa, G., Maslovskaja, J., Periyasamy, K., Urgard, E., Padari, K., Vaher, Helen, Tserel, L., Gestin, M., Kisand, K., Arukuusk, P., Lou, C., Langel, Ü., Wengel, J., Pooga, M. & Rebane, A., 2020, I: Biomaterials. 262, 120316.

SERPINB2 and miR-146a/b are coordinately regulated and act in the suppression of psoriasis-associated inflammatory responses in keratinocytes
Vaher, Helen, Kivihall, A., Runnel, T., Raam, L., Prans, E., Maslovskaja, J., Abram, K., Kaldvee, B., Mrowietz, U., Weidinger, S., Kingo, K. & Rebane, A., 2020, I: Experimental Dermatology. 29, 1, s. 51-60 10 s.

miR-10a-5p is increased in atopic dermatitis and has capacity to inhibit keratinocyte proliferation
Vaher, Helen, Runnel, T., Urgard, E., Aab, A., Carreras Badosa, G., Maslovskaja, J., Abram, K., Raam, L., Kaldvee, B., Annilo, T., Tkaczyk, E. R., Maimets, T., Akdis, C. A., Kingo, K. & Rebane, A., 2019, I: Allergy: European Journal of Allergy and Clinical Immunology. 74, 11, s. 2146-2156 11 s.

Lymphoid stress surveillance response contributes to vitiligo pathogenesis
Raam, L., Kaleviste, E., Šunina, M., Vaher, Helen, Saare, M., Prans, E., Pihlap, M., Abram, K., Karelson, M., Peterson, P. , Rebane, A., Kisand, K. & Kingo, K., 2018, I: Frontiers in Immunology. 9, NOV, 2707.

Signs of innate immune activation and premature immunosenescence in psoriasis patients
Šahmatova, L., Sügis, E., Šunina, M., Vaher, Helen, Prans, E., Pihlap, M., Abram, K., Rebane, A., Peterson, H., Peterson, P., Kingo, K. & Kisand, K., 2017, I: Scientific Reports. 7, 1, 7553.

miR-146b Probably Assists miRNA-146a in the Suppression of Keratinocyte Proliferation and Inflammatory Responses in Psoriasis
Hermann, H., Runnel, T., Aab, A., Baurecht, H., Rodriguez, E., Magilnick, N., Urgard, E., Šahmatova, L., Prans, E., Maslovskaja, J., Abram, K., Karelson, M., Kaldvee, B., Reemann, P., Haljasorg, U., Rückert, B., Wawrzyniak, P., Weichenthal, M., Mrowietz, U., Franke, A. & 13 flere, Gieger, C., Barker, J., Trembath, R., Tsoi, L. C., Elder, J. T., Tkaczyk, E. R., Kisand, K., Peterson, P., Kingo, K., Boldin, M., Weidinger, S., Akdis, C. A. & Rebane, A., 2017, I: Journal of Investigative Dermatology. 137, 9, s. 1945-1954 10 s.

MicroRNA-155 is dysregulated in the skin of patients with vitiligo and inhibits melanogenesis-associated genes in melanocytes and keratinocytes
Šahmatova, L., Tankov, S., Prans, E., Aab, A., Vaher, Helen, Reemann, P., Pihlap, M., Karelson, M., Abram, K., Kisand, K., Kingo, K. & Rebane, A., sep. 2016, I: Acta Dermato-Venereologica. 96, 6, s. 742-747 6 s.

MicroRNA-146a alleviates chronic skin inflammation in atopic dermatitis through suppression of innate immune responses in keratinocytes
Rebane, A., Runnel, T., Aab, A., Maslovskaja, J., Rückert, B., Zimmermann, M., Plaas, M., Kärner, J., Treis, A., Pihlap, M. , Haljasorg, U., Vaher, Helen, Nagy, N., Kemeny, L., Erm, T., Kingo, K., Li, M., Boldin, M. P. & Akdis, C. A., 1 okt. 2014, I: Journal of Allergy and Clinical Immunology. 134, 4, s. 836-847.e11

Priser

Estonian Research Council postdoctoral research grant
Vaher, Helen (Modtager), 2021

Marie Skłodowska-Curie Postdoctoral Fellowship
Vaher, Helen (Modtager), 2022

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Vaher, Helen (Modtager), 2021