# A rewarding journey in the landscape between academia and industry

Senior lecturer Sara Mangsbo Uppsala University sara.mangsbo@farmbio.uu.se

Chief Innovation Officer Ultimovacs
Co-founder of Immuneed, Vivologica and
Strike pharma



#### **UGSBR**

Uppsala Graduate School of Biomedical Research









Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine 506

#### Immunological Checkpoint Blockade and TLR Stimulation for Improved Cancer Therapy

SARA MANGSBO

ISSN 1651-6206 ISBN 978-91-554-7675-5

urn:nbn:se:uu:diva-110147





### PhD student



Thomas Tötterman



Angelica Loskog







2008-2015

#### CLINICAL CANCER RESEARCH

Home

About

Articles

For Authors

Alerts

News

COVID-19

Webinars

Search Q

Cancer Therapy: Preclinical

### The Human Agonistic CD40 Antibody ADC-1013 Eradicates Bladder Tumors and Generates T-cell–Dependent Tumor Immunity

Sara M. Mangsbo, Sissela Broos, Erika Fletcher, Niina Veitonmäki, Christina Furebring, Eva Dahlén, Per Norlén, Malin Lindstedt, Thomas H. Tötterman, and Peter Ellmark

#### **Alligator Bioscience in Brief**







### Postdoctor









**Kees Melief** 





2012

ANSÖKAN: VETENSKAPSRÅDET - UTLYSNING MH SISTA DATUM 3 APRIL 2012 - STORA ANSÖKNINGSOMGÅNGEN 2012 - PROJEKTBIDRAG - MEDICIN OCH HÄLSA (MH) - FRITT

#### Projekttitel (svenska):

Ansökan: En avancerad immunologisk metod för att karakterisera terapeutiska antikroppar med hjälp av en liten mängd humant blod

Projektledare: Mangsbo, Sara









## Co-founder of Immuneed AB



#### Immuneed secures SEK 4.3M in financing

MALIN OTMANI - SEPTEMBER 13, 2016



Immuneed secures SEK 4.3M in seed financing to further develop its immuno-oncology cancer vaccine candidate and grow its human whole-blood loop service for detection of acute immune related side effects of biopharmaceuticals.



#### International Immunopharmacology

journal homepage: www.elsevier.com/locate/intimp

Extracorporeal human whole blood in motion, as a tool to predict first-infusion reactions and mechanism-of-action of immunotherapeutics

Erika A.K. Fletcher<sup>a,b</sup>, Mohamed Eltahir<sup>b</sup>, Frida Lindqvist<sup>a</sup>, Jonas Rieth<sup>b</sup>, Gunilla Törnqvist<sup>a</sup>, Justyna Leja-Jarblad<sup>a,b,1</sup>, Sara M. Mangsbo<sup>a,c,\*,1</sup>



<sup>&</sup>lt;sup>a</sup> Immuneed AB, Dag Hammarskjölds väg 13a, Uppsala, Sweden

<sup>&</sup>lt;sup>b</sup> Department of Immunology Genetics and Pathology, Science for Life Laboratory, Uppsala University, Rudbeck Laboratory C11 Floor 2, Dag Hammarskjöldsväg 20, 751 85 Uppsala, Sweden

<sup>&</sup>lt;sup>c</sup> Department of Pharmaceutical Biosciences, Science for Life Laboratory, Uppsala University, BMC, Husargatan 3, 752 37 Uppsala, Sweden



## UppsalaBIO- BIO-X program

2014

Tora Mangsbo is born July 2014

## BIO-X<sup>®</sup> projektet: Utveckling av ett terapeutiskt vaccin mot cancer baserat på patientens egna immunsvar

Molecular Immunology 93 (2018) 115-124

Contents lists available at ScienceDirect



Molecular Immunology

journal homepage: www.elsevier.com/locate/molimm



The Journal of Immunology

This information is current as of September 16, 2021.

Formation of Immune Complexes with a Tetanus-Derived B Cell Epitope Boosts Human T Cell Responses to Covalently Linked Peptides in an Ex Vivo Blood Loop System

Erika A. K. Fletcher, Wendy van Maren, Robert Cordfunke, Jasper Dinkelaar, Jeroen D. C. Codee, Gijs van der Marel, Cornelis J. M. Melief, Ferry Ossendorp, Jan Wouter Drijfhout and Sara M. Mangsbo

*J Immunol* 2018; 201:87-97; Prepublished online 11 May 2018; doi: 10.4049/jimmunol.1700911

Linking T cell epitopes to a common linear B cell epitope: A targeting and adjuvant strategy to improve T cell responses



Sara M. Mangsbo<sup>a,b,\*</sup>, Erika A.K. Fletcher<sup>a</sup>, Wendy W.C. van Maren<sup>c</sup>, Anke Redeker<sup>c</sup>, Robert A. Cordfunke<sup>c</sup>, Inken Dillmann<sup>d</sup>, Jasper Dinkelaar<sup>e</sup>, Kahina Ouchaou<sup>e</sup>, Jeroen D.C. Codee<sup>e</sup>, Gijs A. van der Marel<sup>e</sup>, Peter Hoogerhout<sup>f</sup>, Cornelis J.M. Melief<sup>c</sup>, Ferry Ossendorp<sup>c</sup>, Jan W. Drijfhout<sup>c</sup>



UNIVERSITET

#### **Project Information** TIMCC Grant agreement ID: 317445 Closed project Start date End date 1 November 2012 31 October 2016 Funded under FP7-PEOPLE Overall budget € 3 756 469 **EU** contribution € 3 756 469 Coordinated by ACADEMISCH ZIEKENHUIS LEIDEN Netherlands

### EU grant experience







Sjeef Verbeek





### Brand lead AZ





Jens Bjorheim



@DrJuhlin and @MjosbergL began their careers with SSMF's Large Grant. Maybe you're our future star. Read more and apply online:

ssmf.se/for-forskare/s...



#### SSMF fellow

2016-2020

1,4 MSEK/year for 4 years



UPPSALA UNIVERSITET

#### Department of Pharmaceutical Biosciences

Uppsala University / Department of Pharmaceutical ... / Research / Protein and peptide ... / Immuno-oncology

RESEARCH

Immuno-oncology



2017-2021

Tenure track position





Foto: TT/Uppsala universitet

## Uppsalaforskaren om Nobelpriset: "Revolutionerande"

UPPDATERAD 1 OKTOBER 2018 PUBLICERAD 1 OKTOBER 2018

James P. Allison och Tasuku Honjo får Nobelpriset i fysiologi eller medicin år 2018, för sin upptäckt av en ny cancerbehandling där man får immunförsvaret att angripa cancerceller.

 En fantastisk nyhet, säger Sara Mangsbo, forskare inom samma område vid Uppsala universitet.

James P Allison och Tasuku Honjo blir 2018 års vinnare av Nobelpriset i fysiologi eller medicin. De prisas för upptäckten av cancerbehandling genom hämmande av immunförsvarets bromsmekanismer.

## Nobel prize in physiology and Medicin

2018

To the discovery of the role of CTLA-4 and PD-1 in regulating T cell activity and the therapeutic opportunity that comes from that discovery



## Uppsalabo utsedd till Årets entreprenör

Uppsalabon – och cancerforskaren – Sara Mangsbo har utsetts till Årets entreprenör. "Det känns hedrande", säger hon.

19 JUNI 2019 15:28









Det är tidningen Veckans affärer som har utsett Sveriges 101 supertalanger under 40 år inom kategorierne sambällsbyggarne, karriäristerna, finansfolket och



## Entrepreneur of the year

2019





## Brain apple award

#### Innovation Prize to Sara Mangsbo

22 June 2020



Photograph: Mikael Wallerstedt

This year, the Uppsala University Innovation Prize for outstanding transfer of knowledge – the Hjärnäpple\* –goes to Sara Mangsbo, Assistant Professor (docent) and Associate Senior Lecturer in Medical Science, and research leader at the Department of Pharmaceutical Biosciences.

2020





## Co-founder Strike pharma AB

2020





Tra

Adaptable Drug Affinity Conjugate (ADAC) targeting CD40, Proof of Concept and Pharmaceutical profiling

Sara Mangsbo, PhD

Associate professor, Associate senior lecturer

Uppsala University

Co-founder STRIKE pharma AB





#### First patient treated in Ultimovacs TENDU study

MALIN OTMANI - FEBRUARY 18, 2021

f SHARE TWEET G. SHARE D PINIT



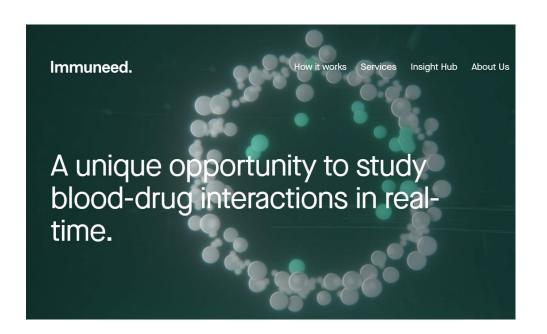
Ultimovacs has announced the treatment of the first patient in the Phase I TENDU trial, representing the start of clinical evaluation for the company's Tetanus-Epitope Targeting (TET)-platform.

## First patient dosed TENDU trial

2021



# Immuneed- global and expanding use of the blood loop system



2021

International Immunopharmacology 90 (2021) 107226

Contents lists available at ScienceDirect

#### International Immunopharmacology

journal homepage: www.elsevier.com/locate/intimp

Profiling of donor-specific immune effector signatures in response to rituximab in a human whole blood loop assay using blood from CLL patients

M. Eltahir <sup>a,b,1</sup>, E. Fletcher <sup>c,1</sup>, L. Dynesius <sup>c</sup>, J.L. Jarblad <sup>c</sup>, M. Lord <sup>a</sup>, I. Laurén <sup>a</sup>, M. Zekarias <sup>a</sup>, X. Yu <sup>d</sup>, M.S. Cragg <sup>d</sup>, C. Hammarström <sup>e</sup>, K.H. Levedahl <sup>f,g</sup>, M. Höglund <sup>f</sup>, G. Ullenhag <sup>b,h</sup>, M. Mattsson <sup>b,f</sup>, S.M. Mangsbo <sup>a,\*</sup>



### Why both worlds?

Sweden is unique in its opportunity to realize your business idea and the support around you to facilitate that

Salary in the academia is low, but your innovative idea is owned by you, if you let it, it can flourish

Be interested and inclusive, you need that team

Build synergistic collaborations around you, can spur both grant opportunities and innovation

Find your drive and make your own journey



## Thank you



