Curriculum Vitae

Personal information

Anna-Karin MALTAIS

Work experience

Nov 2024 - present: Group manager for Biotechnology 2 (quality assessors) at the Swedish MPA

2022-2024: Chief Scientific Officer, XNK Therapeutics, Huddinge, Sweden

XNK Therapeutics was a clinical-stage biotechnology company developing natural killer (NK) cell-based cancer therapies. • Responsible for the Research and Innovation (R&I) including a pipeline comprising four oncology indications, including one phase II study. • Development of XNK's cell therapy platform and process.

2019-2022: Head of CMC, Biotech Research and Product Development (BRPD), Global Rare Diseases (GRD), Chiesi Farmaceutici S.p.A., Italy

Chiesi researches, develops and markets drugs in three areas: AIR (respiratory), RARE (rare diseases) and CARE (specialist & personal care). • Developed and implemented the Chemistry, Manufacturing and Control (CMC) strategy, contributing to the overall R&D strategy of BRPD and GRD. • Managed a pipeline of nine projects in various indications (rare diseases, respiratory, neonatology) at different development stages (pre-clinical to post-marketing). • Development of biologic drug substance, drug product, and analytical methods.

2012-2019: Chief Scientific Officer & Vice President of Research and Development, Eurocine Vaccines AB, Solna, Sweden

Eurocine Vaccines was a public company focused on preclinical and clinical vaccine development. • Led the R&D strategy and all R&D activities at Eurocine Vaccines. • Focused on the development of a nasal influenza vaccine, overseeing preclinical studies and phase I/II trials. • Evaluated new pre-clinical opportunities to combine with Eurocine's adjuvant system. • Established and managed collaborations with academic and industrial partners. • Managed outsourced CMC activities, including formulation development and GMP manufacturing.

2011-2012: Business Development Manager, Eurocine Vaccines AB, Sweden

Developed presentations, press releases, and facilitated interactions with potential partners • Conducted analysis of the competitive landscape and IP strategies • Actively engaged in research and development activities, contributing to the advancement of company projects.

2010-2010: Vice President, Corporate Development, Cyto Pulse Sciences, Inc., MD, US

Cyto Pulse Sciences was acquired by Cellectis in 2010. Cyto Pulse was a clinical-stage medical device and treatment development company dedicated to advancing quality of life through novel electric field based technologies for oncology, gene therapy and infectious disease applications. • Involved in business activities, including interactions with investors and potential partners. • Initiated and managed license agreements for Cyto Pulse's DNA delivery systems. • Explored new commercial and academic collaborators and clinical trial opportunities. • Managed all ongoing academic collaborations and clinical phase I/II studies. • Based in Solna, Sweden at Karolinska Institute Science Park.

2008-2010: Manager EU Operations, Cyto Pulse Sciences, Inc.

• Lead on the Derma Vax system, overseeing all European preclinical studies and clinical trials. • Provided scientific support to DNA vaccine collaborators and facilitated installation and training for Cyto Pulse commercial systems in Europe. • Represented Cyto Pulse and presented data at vaccine conferences worldwide, building relationships and promoting company products.

2007-2008: Consultant, Cyto Pulse Sciences

• Provided scientific advice on genetic vaccines, adjuvants, and delivery systems, contributing to the development of innovative immunotherapy solutions. • Conducted analysis of preclinical research data and prepared scientific presentations, supporting clients in decision-making processes. • Provided guidance on regulatory aspects of DNA vaccines and in vivo electroporation protocols, ensuring compliance and efficacy in clinical trials.

2006-2008: Post-doctoral fellow, Immune and Gene Therapy Lab, Cancer Center Karolinska, Department of Oncology and Pathology, Karolinska Institute, Stockholm

• Stand-in group leader for Prof. Pisa's research group, overseeing activities & budget management. • Organized/planned toxicity studies and put together ethical and regulatory applications for a Phase I/II study of DNA vaccination with electroporation. • Project leader for a Phase I/II study investigating a cancer vaccine in patients with prostate cancer. • Published four original articles and co-supervised a Ph.D. student.

2002-2006: Ph.D. student, Immune and Gene Therapy Lab, Cancer Center Karolinska, Department of Oncology and Pathology, Karolinska Institute

• Published five original articles and one book chapter, contributing to the field of DNA vaccination and cancer immunotherapy. • Developed in vivo electroporation protocols for intradermal DNA vaccination, utilized in clinical studies. • Designed and developed a prostate cancer vaccine demonstrating efficacy and safety in preclinical models. Later investigated in a phase I/II study. • Evaluated vaccine adjuvants & delivery systems, contributing to better vaccine efficacy. • Presented data at multiple international conferences.

Education and training

Additional information

Publications

Maiden name was Anna-Karin Roos.

1. Pavlenko M, **Roos A-K**, Leder C, Hansson L-O, Kiessling R, Levitskaya E, Pisa P. *Comparison of PSA-specific CD8$^+$ CTL responses and antitumor immunity generated by plasmid DNA vaccines encoding PSA-HSP chimeric proteins.* Cancer Immunology Immunotherapy, 2004. 53; 1085-1092.

2. Pavlenko M, **Roos A-K**, Lundqvist A, Palmborg A, Miller AM, Ozenci V, Bergman B, Egevad L, Hellstrom M, Kiessling R, Masucci G, Wersall P, Nilsson S, Pisa P. *A phase I trial of DNA vaccination with a plasmid expressing prostate-specific antigen in patients with hormone-refractory prostate cancer.* Br J Cancer, 2004. 91; 688-94.

3. **Roos A-K**, Pavlenko M, Charo J, Egevad L, Pisa P. *Induction of PSA-specific CTLs and anti-tumor immunity by a genetic prostate cancer vaccine*. The Prostate, 2005. 62; 217-23.

4. Pavlenko M, Leder C, **Roos A-K**, Levitsky V, Pisa P. *Identification of an immunodominant H-2D^b-restricted CTL epitope of human PSA.* The Prostate, 2005. 64; 50-59.

5. **Roos A-K**, Moreno S, Leder C, Pavlenko M, King A, Pisa P. *Enhancement of cellular immune response to a prostate cancer DNA vaccine by intradermal electroporation.* Molecular Therapy, 2006. 13; 320-327.

6. **Roos A-K**, King A, Pisa P. *DNA vaccination for prostate cancer.* Electroporation protocols: Experimental and Clinical Medicine. Editor S. Li © Humana Press Inc., Totowa, NJ. Methods Mol Biol. 2008;423:463-72.

7. Vertuani, S, Triulzi, C, **Roos, A-K**, Pisa, P, Charo, J, Lemonnier, F, Nishimura, M, Seliger, S, Kiessling, R. *HER-2/neu mediated down-regulation of MHC class I antigen processing prevents CTL-mediated tumor recognition upon DNA vaccination in HLA-A2 transgenic mice*. 2008. Cancer Immunol Immunother. 2009 May;58(5):653-64. Epub 2008 Sep 27.

8. **Roos A-K**, Lundberg K, Pavlenko M, Wehrum D, Pisa P. *Peptide specificity of HLA-A2-restricted CD8$^+$ T cell responses induced with DNA vaccines coding for human and rhesus PSA.* Vaccine. 2009 Mar 4;27(10):1557-65. Epub 2009 Jan 24

9. **Roos, A-K,** Eriksson, F, Walters, D, Pisa, P, King, A. *Optimization of skin electroporation in mice to increase tolerability of DNA vaccine delivery to patients.* Molecular Therapy, 2009 Sep;17(9):1637-42. Epub 2009 Jun 16.

10. **Roos A-K**, Eriksson E, Timmons J, Gerhardt J, Nyman U,

Gudmundsdotter L, Bråve A, Wahren B, Pisa P. *Skin Electroporation: Effects on Transgene Expression, DNA Persistence and Local Tissue Environment.* PLoS ONE. 2009 Sept 30.

11. Lladser A, Ljungberg K, Tufvesson H, Tazzari M, **Roos A-K**, Quest FG, Kiessling R.
Intradermal electroporation with a survivin DNA vaccine induces CTLs against a self-epitope, suppresses angiogenesis and confers long-term protection against mouse melanoma. Cancer Immunol Immunother. 2010 Jan;59(1):81-92.

12. Bråve A, Nyström S, **Roos A-K**, Applequist S. *Plasmid DNA Vaccination Using Skin Electroporation Promotes Poly-functional CD4+ T cell Immune Responses.* Immunology and Cell Biology. 2010 Sept14.

13. Bråve A, Gudmundsdotter L, Sandström E, Haller K, Hallengärd D, **Maltais A-K**, King A, Stout R, Blomberg P, Höglund U, Hejdeman B, Biberfeld G and Wahren B· *Biodistribution, persistence and lack of integration of a multigene HIV vaccine delivered by needle-free intradermal injection and electroporation.* Vaccine 2010 Nov 29;28(51):8203-9. Epub 2010 Oct 15.

14. Hallengärd D, Haller K, Petersson S, Boberg A, **Maltais A-K**, Isaguliants M, Wahren B, Bråve A. *Increased expression and immunogenicity of HIV-1 protease following inactivation of the enzymatic activity.* Vaccine. 2010 Nov 22. Epub ahead of print.

15. Hallengärd D, Haller BK, **Maltais AK**, Gelius E, Nihlmark K, Wahren B, Bråve A. *Comparison of plasmid vaccine immunization schedules using intradermal in vivo electroporation.* Clin Vaccine Immunol. 2011 Sep;18(9):1577-81. Epub 2011 Jul 13.

16. Hallengärd D, Applequist S, Nyström S, **Maltais A-K**, Marovic M, Moss B, Earl P, Nihlmark K, Wahren B and Bråve A. *Immunization with multiple vaccine modalities induce strong HIV-specific cellular and humoral immune responses.* Viral Immunology. Viral Immunol. 2012 Oct;25(5):423-32.

17. Elizaveta Starodubova, Olga Krotova, David Hallengärd, Yulia Kuzmenko, Gunnel Engström, Diana Legzdina, Oleg Latyshev, Olesja Eliseeva, **Anna-Karin Maltais**,Vera Tunitskaya, Vadim Karpov, Andreas Bråve, Maria Isaguliants. *Cellular Immunogenicity of Novel Gene Immunogens in Mice Monitored by in Vivo Imaging.* Molecular Imaging - Vol 11, No 6 Nov/Dec 2012, 11, 1536-0121.

18. Fredrik Eriksson, Thomas Tötterman, **Anna-Karin Maltais**, Pavel Pisa, Jeffrey Yachnin. *DNA Vaccine Coding for the Rhesus Prostate Specific Antigen Delivered by Intradermal Electroporation in Patients with Relapsed Prostate Cancer*. Vaccine. 2013 Aug 20;31(37):3843-8. Epub 2013 Jul 2.

19. **Maltais AK**, Stittelaar KJ, Veldhuis Kroeze EJ, van Amerongen G, Dijkshoorn ML, Krestin GP, Hinkula J, Arwidsson H, Lindberg A, Osterhaus AD. *Intranasally administered Endocine™ formulated 2009 pandemic influenza H1N1 vaccine induces broad specific antibody responses and confers protection in ferrets.* Vaccine. 2014 May 30;32(26):3307-15. doi: 10.1016/j.vaccine.2014.03.061. Epub 2014 Mar 30.

20. Tina Falkeborn, Naomi Asahara, Masayuki Hayashi, Masaaki Arai, Jorma Hinkula and **Anna-Karin Maltais**. *Comparison of the Mucosal Adjuvant Endocine™ with Two Well-Known Adjuvants: Cholera Toxin and Alum.* J J Vaccine Vaccination. 2015, 1(2): 006.

21. Tina Falkeborn, Jorma Hinkula, Marie Olliver, Alf Lindberg and **Anna-Karin Maltais**. *The intranasal adjuvant Endocine™ enhances both systemic and mucosal immune responses in aged mice immunized with influenza antigen.* Virology Journal (2017) 14:44.

Projects

Memberships

Other Relevant Information