

Peter Kristensen
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Department of Chemistry and Bioscience
The Faculty of Engineering and Science
Medical Biotechnology
Neuroboost
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Research profile

The research of Peter Kristensen is centered on the technical development and application of methods that allow Darwinian evolution of proteins using directed evolution technologies.

The main scientific contributions have more specifically been in the area of recombinant antibodies and methods of isolating such antibodies from large libraries. In addition Peter Kristensen was the first to develop technologies which allow isolation of proteins with improved stabilities from large libraries of mutants. The interest to make technological developments based on recombinant antibodies and for manipulating protein stability and activity, were initiated while Peter Kristensen performed his post doc at the MRC-LMB in Cambridge in the group of Nobel Laureate Sir Greg Winter. However to justify technological development, the technology developed should be able to provide new insight or solve important problems and here we have especially focused attention at finding novel biomarkers which can be used in characterization of important human conditions, such as age related diseases and rare circulating cells in the blood, just to mention the most relevant example. Most recently, the research has involved the use of non-natural amino acids for immobilization and conjugation of recombinant antibodies and proteins of industrial interest and novel biosensors building on recombinant antibody technology.

Qualifications

Chemistry and Biotechnology, PhD, Aarhus University
1992 → 2 Oct 1995
Award Date: 2 Oct 1995

Chemistry and Biotechnology, MSc, Aarhus University
1 Sept 1986 → 30 Jun 1992
Award Date: 1 Jun 1992

Employment

Professor

Professor
Department of Chemistry and Bioscience
The Faculty of Engineering and Science
Aalborg, Denmark
1 Dec 2017 → 31 Dec 4712

Professor

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The Faculty of Engineering and Science
Aalborg Øst, Denmark
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Professor

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The Faculty of Engineering and Science
1 Dec 2017 → 31 Dec 4712

Neuroboost

The Faculty of Social Sciences and Humanities
Aalborg, Denmark
1 Jan 2023 → present

Associate Professor (MSK)

Aarhus University
Aarhus, Denmark
1 Jan 2010 → 1 Jan 2017

Associate Professor (MSK)

Department of Molecular Biology and Genetics, Aarhus University, Gustav Wieds Vej 10, Aarhus, Denmark.
1 Jan 2003 → 1 Jan 2010

Senior Scientist

Aarhus Universityhospital, Denmark
1 Jan 2001 → 1 Jan 2002

Research Associate Professor

Department of Molecular Biology and Genetics, Aarhus University, Gustav Wieds Vej 10, Aarhus, Denmark.
1 Jan 2000 → 1 Jan 2001

Research Assistant Professor

Department of Molecular Biology and Genetics, Aarhus University, Gustav Wieds Vej 10, Aarhus, Denmark.
1 Jan 1998 → 1 Jan 2000

Research Scientist

Medical Research Council Centre, Laboratory for Molecular Biology (MRC-LMB)
Cambridge, United Kingdom
1 Jan 1997 → 1 Jan 1998

Post-doctoral Fellow

Medical Research Council Centre, Laboratory for Molecular Biology (MRC-LMB)
Cambridge, United Kingdom
1 Jan 1995 → 1 Jan 1997

Research outputs

Crystalline and Amorphous Zeolitic Imidazolate Framework Nanoparticles for Controlled Drug Release

Murimadugula, M. B., Smedskjær, M. M. & Kristensen, P., 26 May 2025.

Structural trends in antibody-antigen binding interfaces: a computational analysis of 1833 experimentally determined 3D structures

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EV biomarker discovery for ultra-early differential diagnosis of stroke

Clegg, L.-A., Blauenfeldt, R. A., Just, J., Bæk, R., Valentin, J. B., Kristensen, P., Andersen, G., Drasbek, K. R. & Jørgensen, M. M., Oct 2024.

NOVEL FUNGAL DERIVED COMPOUNDS

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Protein Binder Toolbox for Studies of Solute Carrier Transporters

Gelová, Z., Ingles-Prieto, A., Bohstedt, T., Frommelt, F., Chi, G., Chang, Y. N., Garcia, J., Wolf, G., Azzollini, L., Tremolada, S., Scacioc, A., Hansen, J. S., Serrano, I., Droce, A., Bernal, J. C., Burgess-Brown, N. A., Carpenter, E. P., Dürr, K. L., Kristensen, P. & Geertsma, E. R. & 6 others, Štefanić, S., Scarabottolo, L., Wiedmer, T., Puetter, V., Sauer, D. B. & Superti-Furga, G., 15 Aug 2024, In: Journal of Molecular Biology. 436, 16, 168665.

EV biomarker discovery for ultra-early differential diagnosis of stroke

Clegg, L.-A., Blauenfeldt, R. A., Just, J., Bæk, R., Kristensen, P., Andersen, G., Drasbek, K. R. & Jørgensen, M. M., Jul 2024, In: Journal of Extracellular Vesicles. 13, Suppl. 1, p. 178-179 2 p.

Investigation of Fouling in Perfusion Cell Culture Processes Using Alternating Tangential Flow Filtration

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Deep mining of antibody phage-display selections using Oxford Nanopore Technologies and Dual Unique Molecular Identifiers

Mejias-Gomez, O., Braghetto, M., Sørensen, M. K. D., Madsen, A. V., Guiu, L. S., Kristensen, P., Pedersen, L. E. & Goletz, S., 25 May 2024, In: New Biotechnology. 80, p. 56-68 13 p.

Investigation of Fouling in Perfusion Cell Culture Processes Using Alternating Tangential Flow Filtration

Veje, M. H., Quirós, M., Kristensen, P. & Jørgensen, M. K., May 2024, In: Journal of Membrane Science. 701, 122764.

IgG-VHH bispecific fusion antibodies: challenges and opportunities as therapeutic agents

Madsen, A. V., Kristensen, P. & Goletz, S., Apr 2024, In: Expert Opinion on Biological Therapy. 24, 4, p. 203-206 4 p.

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A window into the human immune system: comprehensive characterization of the complexity of antibody complementary-determining regions in functional antibodies

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Dong, J., Banwait, B., Ueda, H. & Kristensen, P., 17 Feb 2023, In: Sensors. 23, 4, 2251.

Effect of fouling on recovery of recombinant protein by membrane perfusion filtration

Veje, M. H., Quirós, M., Kristensen, P. & Jørgensen, M. K., 2023.

Generation of robust bispecific antibodies through fusion of single-domain antibodies on IgG scaffolds: a comprehensive comparison of formats

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Immobilization-Free Binding and Affinity Characterization of Higher Order Bispecific Antibody Complexes Using Size-Based Microfluidics

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Keller, J. G., Hymøller, K. M., Thorsager, M. E., Hansen, N. Y., Erlandsen, J. U., Tesauro, C., Simonsen, A. K. W., Andersen, A. B., VandsøPetersen, K., Holm, L. L., Stougaard, M., Andresen, B. S., Kristensen, P., Frøhlich, R. & Knudsen, B. R., 24 Jun 2022, In: Nucleic Acids Research. 50, 11, p. 6332-6342 11 p.

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Semi-rational Engineering of a Promiscuous Fatty Acid Hydratase for Alteration of Regioselectivity

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Pericyte modulation by a functional antibody obtained by a novel single-cell selection strategy

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An anti vimentin antibody promotes tube formation

Jørgensen, M. L., Møller, C. K., Rasmussen, L., Boisen, L., Pedersen, H. & Kristensen, P., 15 Jun 2017, In: *Scientific Reports*. 7, 1, 3576.

A novel excision selection method for isolation of antibodies binding antigens expressed specifically by rare cells in tissue sections

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ReactELISA: Monitoring a Carbon Nucleophilic Metabolite by ELISA - A Study of Lipid Metabolism

Holmquist, E. F., Keiding, B. U., Kold-Christensen, R., Salomón, T., Jørgensen, K. A., Kristensen, P., Poulsen, T. B. & Johannsen, M., 2 May 2017, In: *Analytical Chemistry*. 89, 9, p. 5066-5071 6 p.

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Fra polyklonale til biosimilære antistoffer

Kristensen, P., Aug 2016, In: *BestPractice. Reumatologi*.

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Identification of an unstable 4-hydroxynoneal modification on the 20S proteasome subunit $\alpha 7$ by recombinant antibody technology.

Just, J., Jung, T., Friis, N. A., Lykkemark, S., Drasbek, K., Siboska, G., Grune, T. & Kristensen, P., 1 Dec 2015, In: *Free Radical Biology and Medicine*. 89, p. 786-792 7 p.

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Selection of a breast cancer subpopulation-specific antibody using phage display on tissue sections

Larsen, S. A., Meldgaard, T., Fridriksdottir, A. J., Lykkemark, S., Poulsen, P. C., Overgaard, L. F., Petersen, H. B., Petersen, O. W. & Kristensen, P., 18 Jul 2015, In: *Immunologic Research*. 62, 3, p. 263-272 10 p.

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Novel ageing-biomarker discovery using data-intensive technologies

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Lykkemark, S., Mandrup, O. A., Friis, N. A. & Kristensen, P., 1 Nov 2014, In: *mAbs*. 6, 6, p. 1551-1559 9 p.

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Jørgensen, M. L., Friis, N. A., Just, J., Madsen, P., Petersen, S. V. & Kristensen, P., 15 Jan 2014, In: *Microbial Cell Factories*. 13, 1, 9.

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VECTOR FOR SCREENING ANTIBODY

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SELECTION SYSTEM

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