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Employment

Associate Professor

Department of Health Science and Technology
The Faculty of Medicine
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1 Oct 2011 → present

Associate Professor

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Neurobiological Research and Drug Delivery

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

Associate Professor

Neurobiological Research and Drug Delivery
The Faculty of Medicine
Aalborg, Denmark
1 Oct 2011 → present

Research outputs

The Npc2Gt(LST105)BygNya mouse signifies pathological changes comparable to human Niemann-Pick type C2 disease

Rasmussen, C. L. M., Thomsen, L. B., Heegaard, C. W., Moos, T. & Burkhart, A., Sept 2023, In: Molecular and Cellular Neuroscience. 126, 103880.

Circulating ECVs prevent neurodegeneration and preserve neuronal function in a model of preclinical intracerebral hemorrhage

Burkhart, A. & Moos, T., 13 Jun 2023, In: Molecular Therapy - Nucleic Acids. 32, p. 668-670 3 p.

A novel strategy for delivering Niemann-Pick type C2 proteins across the blood-brain barrier using the brain endothelial-specific AAV-BR1 virus

Rasmussen, C. L. M., Hede, E., Routhe, L. J., Körbelin, J., Helgudottir, S. S., Thomsen, L. B., Schwaninger, M., Burkhart, A. & Moos, T., Jan 2023, In: Journal of Neurochemistry. 164, 1, p. 6-28 23 p.

Targeted transport of biotherapeutics at the blood-brain barrier

Moos, T., Thomsen, S., Burkhart, A., Hede, E. & Laczek, B., 2023, In: Expert Opinion on Drug Delivery. 20, 12, p. 1823-1838 16 p.

Sortilin regulates blood-brain barrier integrity

Toth, A. E., Helms, H. C., Harazin, A., Johnsen, K. B., Goldman, C., Burkhart, A., Thomsen, M. S., Kempen, P. J., Klepe, A., Lipka, D. V., Møller, P. L., Andresen, T. L., Nyegaard, M., Moos, T., Brodin, B. & Nielsen, M. S., Feb 2022, In: The FEBS Journal. 289, 4, p. 1062-1079 18 p.

The blood-brain barrier studied in vitro across species

Thomsen, M. S., Humle, N., Hede, E., Moos, T., Burkhart, A. & Thomsen, L. B., 12 Mar 2021, In: PLOS ONE. 16, 3, e0236770.

Gene therapy to the blood-brain barrier with resulting protein secretion as a strategy for treatment of Niemann Picks type C2 disease

Hede, E., Christiansen, C. B., Heegaard, C. W., Moos, T. & Burkhart, A., Feb 2021, In: Journal of Neurochemistry. 156, 3, p. 290-308 19 p., e14982.

Epigenetic Regulation of Ferroportin in Primary Cultures of the Rat Blood-Brain Barrier

Helgudottir, S. S., Routhe, L. J., Burkhart, A., Jønsson, K., Pedersen, I. S., Lichota, J. & Moos, T., Aug 2020, In: Molecular Neurobiology. 57, 8, p. 3526-3539 14 p.

Targeting the transferrin receptor for brain drug delivery

Bendix Johnsen, K., Burkhart, A., Bohn Thomsen, L., Andresen, T. L. & Moos, T., 1 Oct 2019, In: Progress in Neurobiology. 181, 101665.

Correction to: Hepcidin Mediates Transcriptional Changes in Ferroportin mRNA in Differentiated Neuronal-like PC12 Cells Subjected to Iron Challenge

Helgudottir, S. S., Lichota, J., Burkhart, A. & Moos, T., Apr 2019, In: Molecular Neurobiology. 56, 4, p. 2375-2378 4 p.

Hepcidin mediates transcriptional changes in ferroportin mRNA in differentiated neuronal-like PC12 cells subjected to iron challenge

Helgudottir, S. S., Lichota, J., Burkhart, A. & Moos, T., Apr 2019, In: Molecular Neurobiology. 56, 4, p. 2362-2374 13 p.

Modulating the antibody density changes the uptake and transport at the blood-brain barrier of both transferrin receptor-targeted gold nanoparticles and liposomal cargo

Johnsen, K. B., Bak, M., Melander, F., Thomsen, M. S., Burkhart, A., Kempen, P. J., Andresen, T. L. & Moos, T., 10 Feb 2019, In: Journal of Controlled Release. 295, p. 237-249 13 p.

Antibody affinity and valency impact brain uptake of transferrin receptor-targeted gold nanoparticles

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Targeting transferrin receptors at the blood-brain barrier improves the uptake of immunoliposomes and subsequent cargo transport into the brain parenchyma

Johnsen, K. B., Burkhart, A., Melander, F., Kempen, P. J., Vejlebo, J. B., Siupka, P., Nielsen, M. S., Andresen, T. L. & Moos, T., 1 Dec 2017, In: Scientific Reports. 7, 13 p., 10396.

Synthesis and deposition of basement membrane proteins by primary brain capillary endothelial cells in a murine model of the blood-brain barrier

Thomsen, M. S., Birkelund, S., Burkhart, A., Stensballe, A. & Moos, T., 2017, In: Journal of Neurochemistry. 140, 5, p. 741-754

Transfection of primary brain capillary endothelial cells for protein synthesis and secretion of recombinant erythropoietin: a strategy to enable protein delivery to the brain

Larsen, A. B., Andresen, T. L., Aigner, A., Thomsen, L. B. & Moos, T., 2017, In: Cellular and Molecular Life Sciences. 74, 13, p. 2467-2485

A triple co-culture model of the blood-brain barrier using primary porcine brain endothelial cells, porcine pericytes and porcine astrocytes

Thomsen, L. B., Larsen, A. B. & Moos, T., 2016, IPC No. C12N 5/071 (2010.01), C12N 5/079 (2010.01), G01N 33/50 (2006.01), Patent No. WO/2016/202343 , 22 Dec 2016, Priority date 16 Jun 2016, Priority No. PCT/DK2016/050190

Expression and deposition of basement membrane proteins by brain capillary endothelial cells in a primary murine model of the blood-brain barrier

Thomsen, M. S., Birkelund, S., Larsen, A. B., Stensballe, A. & Moos, T., 2016, *Final Programme, 19th International Symposium on Signal Transduction at the Blood-Brain Barriers, 14-16 September 2016, Copenhagen, Denmark.* University of Copenhagen, p. 37 P-12

Expression of iron-related proteins at the neurovascular unit supports reduction and reoxidation of iron for transport through the blood-brain barrier

Burkhart, A., Skjørringe, T., Johnsen, K. B., Siupka, P., Thomsen, L. B., Nielsen, M. S., Thomsen, L. L. & Moos, T., 2016, In: *Molecular Neurobiology.* 53, 10, p. 7237-7253

Gene delivery of the therapeutic polypeptide erythropoietin to primary brain capillary endothelial cells for protein secretion

Larsen, A. B. & Moos, T., 2016, *Final Programme, 19th International Symposium on Signal Transduction at the Blood-Brain Barriers, 14-16 September 2016, Copenhagen, Denmark.* University of Copenhagen, p. 25 O-5

Synthesis and deposition of basement membrane proteins by primary brain capillary endothelial cells in a murine model of the blood-brain barrier

Moos, T., Routhe, L. J., Birkelund, S., Burkhart, A., Stensballe, A. & Thomsen, M. S., 2016, *46th Annual Meeting of the Society for Neuroscience, Neuroscience 2016, 12-16 November 2016, San Diego, CA, USA.* Society for Neuroscience, 140.10 / U1

Targeting immunoliposomes to transferrin receptors on brain capillary endothelial cells as a mean for cargo transport across the blood-brain barrier

Moos, T., Johnsen, K. B., Burkhart, A., Bruun, J., Siupka, P., Nielsen, M. S. & Andresen, T., 2016, *46th Annual Meeting of the Society for Neuroscience, Neuroscience 2016, 12-16 November 2016, San Diego, CA, USA.* Society for Neuroscience , 140.13 / U4

Targeting immunoliposomes to transferrin receptors on brain capillary endothelial cells as a mean for cargo transport across the blood-brain barrier

Johnsen, K. B., Larsen, A. B., Bruun, J., Siupka, P., Nielsen, M. S., Andresen, T. L. & Moos, T., 2016, *Final Programme, 19th International Symposium on Signal Transduction at the Blood-Brain Barriers, 14-16 September 2016, Copenhagen, Denmark.* University of Copenhagen, p. 51 P-51

A triple culture model of the blood-brain barrier using porcine brain endothelial cells, astrocytes and pericytes

Thomsen, L. B., Burkhart, A. & Moos, T., 2015, In: *PLOS ONE.* 10, 8, 16 p., e0134765.

Divalent metal transporter 1 (DMT1) in the brain: implications for a role in iron transport at the blood-brain barrier, and neuronal and glial pathology

Skjørringe, T., Burkhart, A., Johnsen, K. B. & Moos, T., 2015, In: *Frontiers in Human Neuroscience.* 8, 13 p., 19.

Transfection of brain capillary endothelial cells in primary culture with defined blood-brain barrier properties

Larsen, A. B., Thomsen, L. B., Thomsen, M. S., Lichota, J., Fazakas, C., Krizbai, I. & Moos, T., 2015, In: *Fluids and Barriers of the CNS.* 12, 1, 14 p., 19.

Accessing targeted nanoparticles to the brain: the vascular route

Burkhart, A., Azizi, M., Thomsen, M. S., Thomsen, L. B. & Moos, T., 2014, In: *Current Medicinal Chemistry.* 21, 36, p. 4092-4099

Ceruloplasmin is expressed by brain pericytes

Moos, T. & Larsen, A. B., 2014, *Annual Meeting of the Society for Neuroscience, Neuroscience 2014, 15-19 November 2014, Washington, DC, USA*. p. Poster No. 739.01/QQ4

Gene delivery of therapeutic polypeptides to brain capillary endothelial cells for protein secretion

Larsen, A. B., Thomsen, L. B. & Moos, T., 2014.

Iron uptake and transport at the blood-brain barrier

Larsen, A. B., Thomsen, L. B. & Moos, T., 2014.

The blood-brain barrier in vitro using primary culture: Implications for studies of therapeutic gene expression and iron transport

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The blood-brain barrier in vitro using primary culture: implications for studies of therapeutic gene expression and iron transport

Larsen, A. B., 2014

Characterisation of an in vitro blood-brain barrier model based on primary porcine capillary endothelial cells in monoculture or co-culture with primary rat or porcine astrocytes and pericytes.

Thomsen, L. B., Larsen, A. B. & Moos, T., 2013.

Transfection of rat brain endothelium in a primary culture model of the blood-brain barrier at different states of barrier maturity

Larsen, A. B., Thomsen, L. B., Lichota, J. & Moos, T., 2013.

Gene delivery into primary brain capillary endothelial cells for protein secretion: a novel strategy for drug delivery to the brain

Larsen, A. B., Thomsen, L. B., Lichota, J. & Moos, T., 2012.

Gene delivery of therapeutic polypeptides into brain capillary endothelial cells for protein secretion

Moos, T., Larsen, A. B., Thomsen, L. B. & Lichota, J., 2011.

Gene delivery of therapeutic polypeptides into brain capillary endothelial cells for protein secretion

Larsen, A. B., Thomsen, L. B., Moos, T. & Lichota, J., 2011.

Nanoparticle-derived non-viral genetic transfection at the blood-brain barrier to enable neuronal growth factor delivery by secretion from brain endothelium

Thomsen, L. B., Larsen, A. B., Lichota, J. & Moos, T., 2011, In: *Current Medicinal Chemistry*. 18, 22, p. 3330-3334

Projects

Epigenetisk regulering af ferroportin i den neurovaskulære enhed

Helgudottir, S. S., Lichota, J., Routhe, L. J., Moos, T., Jønsson, K., Larsen, A. B. & Pedersen, I. S.
Scleroseforeningen

01/12/2017 → 01/11/2019