

# Niels Behrendt

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## PUBLICATIONS

### Peer reviewed articles

86. Nørregaard, K.S., Krigslund, O., **Behrendt, N.**, Engelholm, L.H. and Jürgensen, H.J.  
The collagen receptor uPARAP/Endo180 regulates collectins through unique structural elements in its FNII domain.

*J. Biol. Chem.* (2020), May 18. [Online ahead of print]. jbc.RA120.013710.

[doi: 10.1074/jbc.RA120.013710].

PMID: 32424040

85. Jürgensen, H.J., van Putten, S., Nørregaard, K.S., Bugge, T.H., Engelholm, L.H., **Behrendt, N.** and Madsen, D.H.

Cellular uptake of collagens and implications for immune cell regulation in disease.

*Cell. Mol. Life Sci.* (2020), Feb 25. [Epub ahead of print].

[doi: 10.1007/s00018-020-03481-3].

PMID: 32100084

(Review)

84. Wyseure, T., Yang, T., Zhou, J.Y., Cooke, E.J., Wanko, B., Olmer, M., Agashe, R., Morodomi, Y., **Behrendt, N.**, Lotz, M., Morser, J., von Drygalski, A. and Mosnier, L.O.

TAFI deficiency causes maladaptive vascular remodeling after hemophilic joint bleeding.

*JCI Insight.* (2019), 4: e128379.

[doi: 10.1172/jci.insight.128379].

PMID: 31465300

83. Jürgensen, H.J., Silva, L.M., Krigslund, O., van Putten, S., Madsen, D.H., **Behrendt, N.**, Engelholm, L.H. and Bugge, T.H.

CCL2/MCP-1 signaling drives extracellular matrix turnover by diverse macrophage subsets

*Matrix Biology Plus* (2019), 1: 100003

[doi: 10.1016/j.mbplus.2019.03.002].

82. Jürgensen, H.J., Nørregaard, K.S., Sibree, M.M., Santoni-Rugiu, E., Madsen, D.H., Wassilew, K., Krustrup, D., Garred, P., Bugge, T.H., Engelholm, L.H. and **Behrendt, N.**

Immune regulation by fibroblasts in tissue injury depends on uPARAP-mediated uptake of collectins.

*J. Cell Biol.* (2019), 218: 333-349. [Epub 2018, Oct 26].

[doi: 10.1083/jcb.201802148].

PMID: 30366943

81. Durré, T., Morfoisse, F., Ericum, C., Ebroin, M., Blacher, S., García-Caballero, M., Deroanne, C., Louis, T., Balsat, C., Van de Velde, M., Kaijalainen, S., Kridelka, F., Engelholm, L., Struman, I., Alitalo, K., **Behrendt, N.**, Paupert, J. and Noel, A.  
uPARAP/Endo180 receptor is a gatekeeper of VEGFR-2/VEGFR-3 heterodimerisation during pathological lymphangiogenesis.  
*Nat. Commun.* (2018), 9: 5178.  
[doi: 10.1038/s41467-018-07514-1].  
PMID: 30518756

80. Wyseure, T., Cooke, E.J., Declerck, P.J., **Behrendt, N.**, Meijers, J.C.M., von Drygalski, A. and Mosnier, L.O.  
Defective TAFI activation in hemophilia A mice is a major contributor to joint bleeding.  
*Blood* (2018), 132: 1593-1603. [Epub 2018, Jul 19].  
[doi: 10.1182/blood-2018-01-828434].  
PMID: 30026184

79. Madsen, D.H., Jürgensen, H.J., Siersbæk, M.S., Kuczek, D.E., Grey Cloud, L., Liu S., **Behrendt, N.**, Grøntved, L., Weigert, R. and Bugge, T.H.  
Tumor-Associated Macrophages Derived from Circulating Inflammatory Monocytes Degrade Collagen through Cellular Uptake.  
*Cell Rep.* (2017), 21: 3662-3671.  
[doi: 10.1016/j.celrep.2017.12.011].  
PMID: 29281816

78. Nielsen, C.F., van Putten, S.M., Lund, I.K., Melander, M.C., Nørregaard, K.S., Jürgensen, H.J., Reckzeh K., Christensen, K.R., Ingvarsen, S.Z., Gårdsvoll, H., Jensen, K.E., Hamerlik, P., Engelholm, L.H. and **Behrendt, N.**  
The collagen receptor uPARAP/Endo180 as a novel target for antibody-drug conjugate mediated treatment of mesenchymal and leukemic cancers.  
*Oncotarget* (2017), 8: 44605-44624.  
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PMID: 28574834

77. Sprangers, S., **Behrendt, N.**, Engelholm, L.H., Cao, Y. and Everts, V.  
Phagocytosis of Collagen Fibrils by Fibroblasts In Vivo Is Independent of the uPARAP/Endo180 Receptor.  
*J. Cell. Biochem.* (2017), 118: 1590-1595. [Epub 2017, Jan 11].  
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PMID: 27922193

76. Yuan, C., Jürgensen, H.J., Engelholm, L.H., Li, R., Liu, M., Jiang, L., Luo, Z., **Behrendt, N.** and Huang, M.

Crystal structures of the ligand-binding region of uPARAP: effect of calcium ion binding.

*Biochem. J.* (2016), 473: 2359-2368. [Epub 2016, May 31].

[doi: 10.1042/BCJ20160276].

PMID: 27247422

75. Engelholm, L.H., Melander, M.C., Hald, A., Persson, M., Madsen, D.H., Jürgensen, H.J., Johansson, K., Nielsen, C., Nørregaard, K.S., Ingvarsen, S.Z., Kjær, A., Trovik, C.S., Lærum, O.D., Bugge, T.H., Eide, J. and **Behrendt, N.**

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*J. Pathol.* (2016), 238: 120-133. [Epub 2015, Nov 30].

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PMID: 26466547

74. Melander, M.C., Jürgensen, H.J., Madsen, D.H., Engelholm, L.H. and **Behrendt, N.**

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*Int. J. Oncol.* (2015), 47: 1177-1188. [Epub 2015, Aug 12].

[doi: 10.3892/ijo.2015.3120].

PMID: 26316068

(Review)

73. Gaublumme, D., Buyens, T., De Groef, L., Stakenborg, M., Janssens, E., Ingvarsen, S., Porse, A., **Behrendt, N.** and Moons, L.

Matrix metalloproteinase 2 and membrane-type 1 matrix metalloproteinase co-regulate axonal outgrowth of mouse retinal ganglion cells.

*J. Neurochem.* (2014), 129: 966-979. [Epub 2014, Mar 27].

72. Nielsen, C., Kjems, J., Sørensen, K.R., Engelholm, L.H. and **Behrendt, N.**

Advances in targeted delivery of small interfering RNA using simple bioconjugates.

*Expert Opin. Drug Deliv.* (2014), 11: 791-822. [Epub 2014, Mar 26].

(Review)

71. Jürgensen, H.J., Johansson, K., Madsen, D.H., Porse, A., Melander, M.C., Sørensen, K.R., Nielsen, C., Bugge, T.H., **Behrendt, N.** and Engelholm, L.H.

Complex determinants in specific members of the mannose receptor family govern collagen endocytosis.

*J. Biol. Chem.* (2014), 289: 7935-7947. [Epub 2014, Feb 5].

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A monoclonal antibody interferes with TIMP-2 binding and incapacitates the MMP-2-activating function of multifunctional, pro-tumorigenic MMP-14/MT1-MMP.

*Oncogenesis* (2013), 2: e80. [2013, Dec 2].

69. Madsen, D.H., Leonard, D., Masedunskas, A., Moyer, A., Jürgensen, H.J., Peters, D.E., Amornphimoltham, P., Selvaraj, A., Yamada, S., Brenner, D.A., Burgdorf, S., Engelholm, L.H., **Behrendt, N.**, Holmbeck, K., Weigert, R. and Bugge, T.H.

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*J. Cell Biol.* (2013), 202: 951-966. [Epub 2013, Sep 9].

68. Madsen, D.H., Jürgensen, H.J., Ingvarsen, S., Melander, M.C., Albrechtsen R, Hald, A., Holmbeck, K., Bugge, T.H., **Behrendt, N.** and Engelholm, L.H.

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67. Ma, Y.J., Doni, A., Romani, L., Jürgensen, H.J., **Behrendt, N.**, Mantovani, A. and Garred, P.

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*J. Immunol.* (2013), 191: 1324-1333. [Epub 2013, Jul 1].

66. Ingvarsen, S., Porse, A., Erpicum, C., Maertens, L., Jürgensen, H.J., Madsen, D.H., Melander, M.C., Gårdsvoll, H., Høyer-Hansen, G., Noel, A., Holmbeck, K., Engelholm, L.H. and **Behrendt, N.**

Targeting a single function of the multifunctional matrix metalloprotease MT1-MMP: impact on lymphangiogenesis.

*J. Biol. Chem.* (2013), 288: 10195-10204. [Epub 2013, Feb 14].

65. Noël, A., Gutiérrez-Fernández, A., Sounni, N.E., **Behrendt, N.**, Maquoi, E., Lund, I.K., Cal, S., Høyer-Hansen, G. and López-Otín, C.

New and Paradoxical Roles of Matrix Metalloproteinases in the Tumor Microenvironment.

*Front. Pharmacol.* (2012), 3: Article 140. [Epub 2012, Jul 17].

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64. Lund, I.K., Rasch, M.G., Ingvarsen, S., Pass, J., Madsen, D.H., Engelholm, L.H., **Behrendt, N.** and Høyer-Hansen, G.

Inhibitory Monoclonal Antibodies against Mouse Proteases Raised in Gene-Deficient Mice Block Proteolytic Functions in vivo.

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62. Gårdsvoll, H., Jacobsen, B., Kriegbaum, M.C., **Behrendt, N.**, Engelholm, L.H., Østergaard, S. and Ploug, M.  
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57. Lund, I.K., Jögi, A., Rønø, B., Rasch, M.G., Lund, L.R., Almholt, K., Gårdsvoll, H., **Behrendt, N.**, Rømer, J. and Høyer-Hansen, G.  
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*J. Biol. Chem.* (2008), 283: 15217-15223. [E-pub 2008, Mar 24].

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## **Patents**

Patent applications:

Antibody-drug conjugates targeting uPARAP

Priority founding patent application filed on 05 February 2016 as PA 2016 70063.

Inventors: Nielsen C; **Behrendt N**; Engelholm LH.

Applicant: Rigshospitalet and the University of Copenhagen.

Published on August 10, 2017, as WO2017/133745 A1.

National applications deriving from the international patent application No. PCT/DK2017/050024 filed on August 31, 2018.

Issued patents:

Urokinase-type plasminogen activator receptor

Patent number: US6248712

Publication date: 2001-06-19

Inventor: Danø K; Blasi F; Roldan AL; Cubellis MV; Masucci MT; Appella E; Schleuning W-D; **Behrendt N**; Rønne E; Kristensen P; Pöllänen J; Salonen E-M; Stephens RW; Tapiovaara H; Vaheri A; Møller LB; Ellis V; Lund LR; Ploug M; Pyke C; Patthy L

Applicant: cancerforskningsfondet af 1989

Vectors and methods for recombinant production of uPA-binding fragments of the human urokinase-type plasminogen receptor (uPAR)

Patent number: US5891664

Publication date: 1999-04-06

Inventor: Danø K; Blasi F; Roldan AL; Cubellis MV; Masucci MT; Appella E; Schleuning W-D; **Behrendt N**; Rønne E; Kristensen P; Pöllänen J; Salonen E-M; Stephens RW; Tapiovaara H; Vaheri A; Møller LB; Ellis V; Lund LR; Ploug M; Pyke C; Patthy L

Applicant: cancerforskningsfondet af 1989

Urokinase-type plasminogen activator receptor antibodies

Patent number: US5519120

Publication date: 1996-05-21

Inventor: Danø K; Rønne E; **Behrendt N**; Ellis V; Høyer-Hansen G; Pyke C; Brünner N

Applicant: cancerforskningsfondet af 1989