

Curriculum Vitae

Personal information

Name De Groot
First name Theun
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Sex Male
Nationality NL
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Professional experience

2013 – present Postdoc, group Dr. Ron Korstanje, The Jackson Laboratory, Bar Harbor, Maine, USA.
Project: Towards gene identification and personalized prophylactic medication for lithiopathies in lithium-using patients.

2011 – 2013 Postdoc, group Osmoregulation (Prof. Dr. Peter Deen), department of Physiology, Radboud University Nijmegen Medical Centre, the Netherlands.
Project: *Lithium-induced Nephrogenic Diabetes Insipidus from susceptibility to cause.*

2006 – 2010 PhD student, group Ion Transport (Prof. Dr. Joost Hoenderop and Prof. Dr. René Bindels), department of Physiology, Radboud University Nijmegen Medical Centre, the Netherlands;
Project: *The role of the N- and C- terminus in the regulation of the epithelial Ca²⁺ channel TRPV5*
Collaboration with and regular visits to the laboratory of Kees Jalink, Dutch Cancer Institute, Amsterdam, The Netherlands. Goal: fluorescent microscopy to study TRPV5 localization and regulation

Education

2011 PhD degree, Radboud University Nijmegen, the Netherlands. Title of thesis: A terminal view at the epithelial Ca²⁺ channel TRPV5.

2001 – 2006 Master of science Biomedical sciences, main subject Pathobiology, Radboud University Nijmegen, the Netherlands.

Internships

2006 Department of Physiology (4 months), NCMLS, Radboud University Nijmegen Medical Centre, the Netherlands
Project: *Role of associating proteins G-protein beta2 subunit and syntaxin-3 on TRPV5 activity*

2005 Department of Pharmacology, section autoimmunity (8 months) at N.V. Organon, Oss, the Netherlands
Project: *Profiling p38 MAPK inhibitors in murine model of LPS-induced endotoxemia*

2004 Department of Biochemistry, group Membrane biochemistry (4 months), NCMLS, Radboud University Nijmegen Medical Centre, the Netherlands

Project: Inhibition of mitochondrial Na^+ - Ca^{2+} exchange restores agonist-induced ATP production and Ca^{2+} handling in human complex I deficiency.

1995 – 2001

Gymnasium, Titus Brandsma Lyceum, Oss, The Netherlands

Subjects: dutch, english, latin, geography, mathematics B, chemistry, physics, biology

Publications

Accepted:

1) de Groot T, Alsady M, Jaklofsky M, Otte-Höller I, Baumgarten R, Giles RH and Deen PMT. Lithium causes G2 arrest of renal principal cells.

J Am Soc Nephrol. 25: 501-510, 2014

2) Sinke AP, Kortenoeven ML, **de Groot T**, Baumgarten R, Devuyst O, Wetzels JF, Loffing J, Deen PM.

Hydrochlorothiazide attenuates lithium-induced nephrogenic diabetes insipidus independently of the sodium-chloride cotransporter.

Am J Physiol Renal Physiol. 306: 525-533, 2014

3) de Groot T, van der Hagen EA, Verkaart S, te Boekhorst VA, Bindels RJ, Hoenderop JG.

The role of the TRPV5 N-terminus in channel activity, tetramerization and trafficking.

J Biol Chem. 286: 32132-32139, 2011

4) de Groot T, Kovalevskaya NV, Verkaart S, Schilderink N, Felici M, van der Hagen EA, Bindels RJ, Vuister GW, Hoenderop JG.

The molecular mechanisms of calmodulin action on TRPV5 and the modulation by parathyroid hormone.

Mol Cell Biol. 31: 2845-2853, 2011

5) de Groot T, Verkaart S, Xi Q, Bindels RJ, Hoenderop JG.

The identification of histidine-712 as a critical residue for constitutive TRPV5 internalization.

J Biol Chem. 285:28481-28487, 2010

6) de Groot T, Lee K, Langeslag M, Xi Q, Jalink K, Bindels RJ, Hoenderop JG.

Parathyroid hormone activates TRPV5 via PKA-dependent phosphorylation.

J Am Soc Nephrol. 20:1693-16704, 2009

7) de Groot T, Bindels RJ and Hoenderop JG.

TRPV5: an ingeniously controlled calcium channel.

Kidney Int. 74:1241-1246, 2008

8) Lambers TT, Oancea E, **de Groot T**, Topala CN, Hoenderop JG, Bindels RJ. Extracellular pH dynamically controls cell surface delivery of functional TRPV5 channels.

Mol Cell Biol. 27:1486-1494, 2007

9) Visch HJ, Rutter GA, Koopman WJ, Koenderink JB, Verkaart S, **de Groot T**, Varadi A, Mitchell KJ, van den Heuvel LP, Smeitink JA, Willems PH.

Inhibition of mitochondrial Na^+ - Ca^{2+} exchange restores agonist-induced ATP production and Ca^{2+} handling in human complex I deficiency.

J Biol Chem. 279:40328-40336, 2004

Oral presentations

International:

- 1) 2013: American Society of Nephrology Renal Week, Atlanta, USA. Title: Acetazolamide: an improved treatment for Lithium-Induced Nephrogenic Diabetes Insipidus?
- 2) 2013: Pre-ASN ETG Young Investigators Research Forum, Atlanta, USA. Title: Acetazolamide: an improved treatment for Lithium-Induced Nephrogenic Diabetes Insipidus?
- 3) 2011: Pre-ASN ETG Young Investigators Research Forum, Philadelphia, USA Title: Thiazide attenuates lithium-induced nephrogenic diabetes insipidus independently of the sodium-chloride co-transporter.
- 4) 2008: American Society of Nephrology Renal Week, Philadelphia, USA. Title: Parathyroid hormone stimulates active calcium reabsorption through PKA-mediated phosphorylation of the renal epithelial calcium channel TRPV5.

National:

- 1) 2014: Dutch Nephrology Days of the Dutch Society of Nephrology, Veldhoven, the Netherlands. Title: Acetazolamide: an improved treatment for Lithium-Induced Nephrogenic Diabetes Insipidus?
- 2) 2012: Dutch Nephrology Days of the Dutch Society of Nephrology, Veldhoven, the Netherlands. Title: Thiazide attenuates lithium-induced nephrogenic diabetes insipidus independently of the sodium-chloride co-transporter.
- 3) 2011: Dutch Nephrology days of the Dutch Society of Nephrology, Veldhoven, the Netherlands. Oral presentation for best renal thesis 2011 of the Netherlands. Title: "A terminal view at the epithelial Ca²⁺ channel TRPV5.
- 4) 2010: NCMLS PhD retreat, Hof van Wageningen, the Netherlands. Title: The epithelial Ca²⁺ channel TRPV5; what's in the terminus?
- 5) 2009: Dutch Nephrology Days, Veldhoven, the Netherlands. Title: Parathyroid hormone stimulates active calcium reabsorption through PKA-mediated phosphorylation of the renal epithelial calcium channel TRPV5.
- 6) 2007: Dutch Nephrology Days, Veldhoven, the Netherlands. Title: Metabolic acidosis-induced hypercalciuria is due to cell surface retrieval of functional TRPV5 channels.

Poster presentations

International

- 1) 2012: American Society of Nephrology Renal week, San Diego, USA. Title: A G2 Cell Cycle Arrest of Proliferating Principal Cells May Explain the Loss of These Cells in Lithium-Induced Nephrogenic Diabetes Insipidus.
- 2) 2012: EUNEFRON symposium on Rare Inherited Kidney Disorders, Berlin, Germany. Title: Thiazide attenuates lithium-induced nephrogenic diabetes insipidus independently of the sodium-chloride co-transporter.

3) 2011: American Society of Nephrology Renal week, Philadelphia, USA. Title: Thiazide attenuates lithium-induced nephrogenic diabetes insipidus independently of the sodium-chloride co-transporter.

4) 2009: American Society of Nephrology Renal Week, San Diego, USA. Title: Multiple roles for camp-elevating hormones in the regulation of TRPV5 activity.

National

1) 2012: Dutch Society for Physiology symposium, Amsterdam, the Netherlands. Title: A G2 Cell Cycle Arrest of Proliferating Principal Cells May Explain the Loss of These Cells in Lithium-Induced Nephrogenic Diabetes Insipidus.

2) 2009: NCMLS PhD retreat, Papendal, Arnhem, The Netherlands. Title: BIFC as a fluorescent tool to study TRPV5 tetramerization.

3) 2008: NCMLS PhD retreat, Papendal, Arnhem, The Netherlands. Title: PTH-induced cAMP elevations stimulate TRPV5 activity via phosphorylation of threonine-709.

4) 2007: NCMLS PhD retreat, Papendal, Arnhem, The Netherlands. Title: Extracellular pH dynamically controls cell surface delivery of functional TRPV5 channels.

Grants/Awards

2014 First place for best abstract entitled “Acetazolamide: an improved treatment for Lithium-Induced Nephrogenic Diabetes Insipidus?” at the Dutch Nephrology days, Veldhoven, the Netherlands. €500.

First place award ASN review in Utrecht of project “Acetazolamide: an improved treatment for Lithium-Induced Nephrogenic Diabetes Insipidus?” €750.

Winner of the WGIKD Impulsion Grant 2013 of €20.000. Project title: Acetazolamide as a treatment for congenital nephrogenic diabetes insipidus.

2013 Marie Curie International Outgoing Fellowships grant from the European Commission of €270.000. Project acronym: Lithiopathies.

Niels Stensen Fellowship of the Niels Stensen Foundation, Amsterdam, The Netherlands of €32.325. Project title: Towards gene identification and personalized preventative medication for lithiopathies in lithium-using patients.

Kolff Postdoc Fellowship Abroad Grant from the Dutch Kidney Foundation of €15.000; Project title: The implementation of Haplotype Association Mapping to identify novel lithiopathy susceptibility genes.

Travel grant pre-ASN ETG meeting in Atlanta of \$300.

With student Mike Berendsen: Biomedical sciences J. Bex price (€500 for the student) for the best Bachelor stay, report, and presentation of the year.

2012 Second place Hamburger award for best physiological thesis 2011 of the Netherlands from the Dutch Society for Physiology.

Second place award for best poster presentation at the Dutch Society of Physiology symposium 2012 in Amsterdam, the Netherlands.

Third place award for best renal thesis 2011 of the Netherlands from the Dutch Society of Nephrology at the Dutch Nephrology days, Veldhoven, the Netherlands. €250.

- 2010 Second place award for best oral presentation at the NCMLS PhD retreat, Hof van Wageningen, the Netherlands, Title: "The epithelial Ca²⁺ channel TRPV5; What's in the terminus?"
- 2008 Third place award for best poster presentation at the NCMLS PhD retreat, Papendal, Arnhem, the Netherlands.
- 2006 Second place award for best poster presentation at the NCMLS PhD retreat, Papendal, Arnhem, the Netherlands.

Teaching

Supervision:

PhD students: 1) Mohammad Alsady (2012-2016; at present on distance)
2) Anne Sinke (2011-2013)

MSc students: 1) Lena Egbert (2013; at The Jackson Laboratory)
2) Mohammad Alsady (2012)
3) Anke Lameris (2008)

BSc students: 1) Dewi Blom (2014; at The Jackson Laboratory)
2) Mike Berendsen (2013)
3) Man Chun Lee (2013)
4) Veronica ter Boekhorst (2010)2
5) Peter van Essen (2007)

Other activities

2013 Co-promotor thesis Dr. Anne Sinke "Understanding the mechanisms of disorders in osmoregulation and their potential treatments".

2012-present Peer-reviewing papers for JASN

2006-2010 Presentation of scientific projects at student markets at the faculties of medicine and biology

2008-2009 Teaching of biomedical students during laboratory courses and lectures to explain and demonstrate live imaging microscopy