

Curriculum Vitae

Lisa M. Godsel, Ph.D.

University Address

Northwestern University Medical School
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Personal Information

Citizenship United States of America
Birthdate November 4, 1969
Birthplace Chicago, Illinois, USA

Education

1991 Bradley University, Peoria, IL B.S. (Biology)

Graduate Education

1997 Northwestern University, Evanston, IL Ph.D. (Immunology and Microbial Pathogenesis)
Thesis title: A Novel Mechanism for Flagellar Protein Localization
Thesis advisor: Dr. David M. Engman

Postdoctoral Research Training

1997-2000	Northwestern University, Pathology	Research Associate	Immunology
2000-2003	Northwestern University, Pathology	Postdoctoral Fellow	Cell Biology

Faculty Appointments

2003-	Research Assistant Professor	Northwestern University	Pathology
2008-	Research Assistant Professor	Northwestern University	Dermatology

Committee Service

- Founding Member/Organizer, Calandra Post-Doc/Graduate Student Research Forum Steering Committee. A monthly research presentation forum for postdoctoral fellows and graduate students in the Department of Pathology, Northwestern University Medical School, 1995-1996, 1998-1999, 2006-2007.

- Organizer, Epithelial Group Research Forum. A bi-monthly research presentation forum for scientists whose research includes the study of epithelial cell biology. Northwestern University Medical School, 2002-2004.
- Ward Rounds Editorial Board Member, 2007-2009

Awards, Honors, Distinctions

Awards

- Mortar Board National Honor Society
- Honor Roll, Bradley University
- American Society for Microbiology Foundation Award for Travel--1993 Meeting.
- MacArthur Foundation Award, Biology of Parasitism Course, Woods Hole, MA
- Dr. Kenneth Warren Excellent Graduate Student/Postdoctoral Presentation Award, 7th Annual Molecular Parasitology Meeting, Woods Hole, MA.
- Young Scientist Award for Poster Presentation, 2002 Gordon Research Conference on Intermediate Filaments, Bristol, RI.
- Gramm Travel Fellowship Award Recipient, 2002. For travel to the 42nd Annual American Society for Cell Biology Conference, San Francisco, CA.
- Post Graduate Program in Cutaneous Biology Training Grant, Northwestern University Medical School, Chicago, IL, September 2001-August 2003
- Florence Helen Raby Stone Memorial Award Recipient, 2003. Awarded in recognition of excellence in cancer research and first place performance in competition for the Gramm Travel Fellowship/Bane Trust Award.
- Awarded a Top 10 Cited Paper from 2006-2008 in The Journal of Dermatologic Science for the paper entitled: Discriminating roles of desmosomal cadherins: Beyond desmosomal adhesion. 2007. 45(1): 7-21.

Minisymposia

- Minisymposium Speaker, 2002. 42nd Annual American Society for Cell Biology Conference, San Francisco, CA.
- Minisymposium Speaker, 2003. 65th Annual Society for Investigative Dermatology Conference, Providence, RI.
- Minisymposium Speaker, 2004. 44nd Annual American Society for Cell Biology Conference, Washington DC.
- Minisymposium Speaker. 2009. 69th Annual Society for Investigative Dermatology Conference, Montreal, Canada.
- Minisymposium Speaker. 2011. 71st Annual Society for Investigative Dermatology Conference, Phoenix, AZ.
- Symposium Speaker. 2012. 61st Annual Montagna Symposium on the Biology of the Skin, Gleneden Beach, OR.

Invited lectures

- Invited Lecture: A Novel Mechanism for Flagellar Protein Localization. The Chicago Medical School, Finch School of Health Sciences, North Chicago, IL. 1999.
- Invited Lecture: Desmoplakin's Roles in Epithelial Integrity and Desmosome Remodeling in Living Cells. Midwestern University, Downers Grove, IL. 2003.
- Invited Lecture: Desmoplakin phosphorylation and regulated intermediate filament association is required for its efficient trafficking and incorporation into desmosomes. Kyoto University, Kyoto, Japan. 2005.

Professional Society Memberships

- Society for Investigative Dermatology
- American Society for Cell Biology

Professional and Scientific Service

- Coordinator/Organizer/Teacher, Buriti Workshop on the Molecular Biology of Parasites. A practical integrated course for biochemists and immunologists, Multidisciplinary Laboratory for the Study of Chagas' Disease, Universidade de Brasília, Brasília, DF, Brasil, June 5-30, 1994.
- Session Co-chair, June 2005. Gordon Research Conference-Epithelial Differentiation and Keratinization, Barga, Italy.
- Coordination of the shared Live Cell Imaging System for the Department of Pathology.
- Reviewer for Journal of Dermatological Science.
- Reviewer for FASEB Journal.
- Reviewer for PLOS One.

Teaching Activities

Organic Chemistry Laboratory Course, Teaching Assistant, Bradley University	1989
Biology and Chemistry Tutor, Bradley University	1989-1991
Molecular Biology and Genetics Laboratory Course, Teaching Assistant, Bradley University	1990-1991
Advanced Molecular Biology Laboratory Course, Coordinator, Bradley University	1991
Graduate Biochemistry Course, Teaching Assistant, Northwestern University	1992
Buriti Workshop on the Molecular Biology of Parasites, University of Brasilia, Brasilia, Brazil	1994
Microbiology and Immunology Laboratory Course, Dr. William M. Scholl, College of Podiatric Medicine	1996-1999
Advanced Graduate Microbial Pathogenicity Course, Northwestern University	1999
Undergraduate General Biology II Course, Loyola University, Chicago	2003
Undergraduate General Biology I Laboratory Course, Instructor Loyola University, Chicago	2007-present
Undergraduate General Biology II Laboratory Course, Instructor Loyola University, Chicago	2008-present

Supervision of Students, Research Technologists, and Visiting Scientists

Evangeline Amargo—Research technologist
 Amanda Bass—Medical scientist training program student
 Kathryn Buchanan—Graduate student
 Laura Downing—Biotechnology student
 Sara Dunn—Research Technologist

Sara Fruehling—Graduate student
 Sarah Guehler—Graduate student
 Rohit Gupta—Medical student
 Marihan Hegazy—Graduate student
 Ryan Hobbs—Graduate student
 Tracie Hudson—Research technologist
 Jennifer Jensen—Graduate student
 Juan Leon—Graduate student
 Rosa Amelia Maldonado—Visiting scientist
 Ryan Matika—Biotechnology student
 Mary Beth Novak—Research technologist
 Cory Simpson—Medical scientist training program student
 Dawn Sweeney—Research technologist
 Jennifer Thomas—Graduate student
 Elle Travis—Research technologist
 Daniel Uslan—Biotechnology student
 Rizwan Velji—Biotechnology student
 Kaihua Wang—Research Technologist
 Debra Yoo—High school student

Research Grants

Ongoing Research Support

Dermatology Foundation (PI--Godsel) 07/01/12-06/30/13 \$55,000
Plakophilins Organize Structural and Signaling Cues Regulating Tissue Development and Homeostasis

This Research Career Development award proposes research towards determine the mechanism by which plakophilins mediate cell-cell junction maturation, and extracellular matrix attachment via the regulation of small G protein activity and to define the roles of plakophilins in regulating signals during epithelial morphogenesis and homeostasis.

Leducq Foundation (PI--Jalife, Hatem) (Godsel—Associate Member)

10/1/09-9/30/14 \$82,644

Structural Alterations in the Myocardium and the Substrate for Cardiac Fibrillation

This Transatlantic Research Network proposes research towards improving mechanistic insight into arrhythmogenesis and ultimately developing and clinically testing novel approaches for the prevention and treatment of cardiac arrhythmias.

Skin Cancer Foundation (PI--Godsel) 04/01/12-03/31/13 \$25,000

The role of the desmosome protein, plakophilin 2, in cancer

This research grant proposes research towards determining the role Plakophilin 2 plays in tumorigenesis, as a suppressor of metastasis by regulating a pathway involving RhoA and integrins; maintaining homeostatic interactions between cells and matrix within normal tissues.

Scholarly Bibliography: Original Journal Articles

1. Tibbetts, R.S., Kim, I.Y., Olson, C.L., Barthel, L.M., Sullivan, M.A., Winqvist, A.G., Miller, S.D. and Engman, D.M. (1994) Molecular cloning and characterization of the 78 kDa glucose regulated protein of *Trypanosoma cruzi*. *Infect. Immun.* **62**, 2499-2507.
2. Godsel, L.M., Tibbetts, R.S., Olson, C.L., Chaudoir, B.M. and Engman, D.M. (1995) Utility of recombinant flagellar calcium-binding protein for serodiagnosis of *Trypanosoma cruzi* infection. *J. Clin. Microbiol.* **33**, 2082-2085.
3. Godsel, L.M., Olson, C.L., Lacava, Z.G.M., and Engman, D.M. (1995) Comparison of the 24 kDa flagellar calcium-binding protein cDNAs of two strains of *Trypanosoma cruzi*. *J. Euk. Microbiol.* **42**, 320-322.
4. Krautz, G.M., Peterson, J.D., Godsel, L.M., Krettli, A.U. and Engman, D.M. (1998) Human antibody responses to *Trypanosoma cruzi* 70 kDa heat shock proteins. *Am. J. Trop. Med. Hyg.* **58**, 137-143.
5. Maldonado, R.A., Mirzoeva, S., Godsel, L.M., Lukas, T.J., Goldenberg, S., Watters, D.M., and Engman, D.M. (1999) Identification of calcium binding sites in the trypanosome flagellar calcium-acyl switch protein. *Mol. Biochem. Parasitol.* **101**, 61-70.
6. Godsel, L.M. and Engman, D.M. (1999) Flagellar protein localization mediated by a calcium-myristoyl/palmitoyl switch mechanism. *EMBO J.* **18**, 2057-2065.
7. Bornslaeger, E.A., Godsel, L.M., Corcoran, C.M., Park, K.J., Hatzfeld, M., Kowalczyk, A.P. and Green, K.J. (2001) Plakophilin 1 interferes with plakoglobin binding to desmoplakin, yet together with plakoglobin promotes clustering of desmosomal plaque complexes at cell-cell borders. *J. Cell Sci.* **114**, 727-738.
8. Godsel, L.M., Wang, K., Schodin, B.A., Leon, J.S., Miller, S.D. and Engman, D.M. (2001) Prevention of autoimmune myocarditis through the induction of antigen-specific peripheral immune tolerance. *Circulation.* **103**, 1709-1714.
9. Leon, J.S., Godsel, L.M., Wang, K. and Engman, D.M. (2001) Cardiac myosin autoimmunity in acute chagas' heart disease. *Infect. Immun.* **69**, 5643-5649.
10. Huen, A.C., Park, K.J., Godsel, L.M., Chen, X., Bannon, L.J., Amargo, E.V., Hudson, T.Y., Mongiu, A.K., Leigh, I.M., Kelsell, D.P., Gumbiner, B.M. and Green, K.J. (2002) Intermediate filament-membrane attachment function synergistically with actin-dependent contacts to regulate adhesive strength. *J. Cell Biol.* **159**, 1005-1017.
11. Godsel, L.M.*, Leon, J.S.*, Wang, K., Fornek, J.L., Molteni, A. and Engman, D.M. (2003) Captopril prevents experimental autoimmune myocarditis. *J. Immunol.* **171**, 346-352. (*co-first authorship)

12. Getsios, S., Amargo, E.V., Dusek, R.L., Ishii, K., Sheu, L., Godsel, L.M. and Green, K.J. (2004) Coordinated expression of desmoglein 1 and desmocollin 1 regulates intercellular adhesion. *Differentiation*. **72**, 419-433.
13. Hudson, T.Y., Fontao, L., Godsel, L.M., Choi, H.J., Huen, A.C., Borradori, L., Weis, WI and Green, K.J. (2004) In vitro methods for investigating desmoplakin-intermediate filament interactions and their role in adhesive strength. *Methods Cell Biol.* **78**, 757-786.
14. Yin, T., Getsios, S., Caldelari, R., Godsel, L.M., Kowalczyk, A.P., Mueller, E.J. and Green, K.J. (2005) Mechanisms of plakoglobin-dependent adhesion: desmosome-specific functions in assembly and regulation by epidermal growth factor receptor. *J. Biol. Chem.* **280**, 40355-40363.
15. Godsel, L.M., Hsieh, S.N., Amargo, E.V., Bass, A.E., Pascoe-McGillicuddy, L.T., Huen, A.C., Thorne, M.E., Gaudry, C.A., Park, J.K., Myung, K., Goldman, R.D., Chew, T.L. and Green, K.J. (2005) Intermediate filament association regulates desmoplakin dynamics and assembly into desmosomes. *J. Cell Biol.* **171**, 1045-1059.
16. Yang, Z., Boles, N.E., Scherer, S.E., Taylor, M.D., Kearney, D.L., Ge, S., nadvoretzkiy, V.V., DeFreitas, G., Carabell, B., Brandon, L.I., Godsel, L.M., Green, K.J., Saffitz, J.E., Li, H., Danieli, G.A., Calkins, H., Marcus, F., Towbin, J.A. (2006) Desmosomal dysfunction due to mutations in desmoplakin causes arrhythmogenic right ventricular dysplasia/cardiomyopathy. *Circ. Res.* **15**, 646-655.
17. Dusek, R.L., Godsel, L.M., Chen, F., Strohecker, A.M., Getsios, S., Harmon, R., Mueller, E.J., Caldelari, R., Cryns, V.L. and Green, K.J. (2007) Plakoglobin deficiency protects keratinocytes from apoptosis. *J. Invest. Dermatol.* **127**, 792-801.
18. Godsel, L.M., Dubash, A.D., Bass, A.E., Amargo, E.V., Klessner, J.L., Hobbs, R.P., Chen, X. and Green, K.J. (2010) Plakophilin 2 couples actomyosin remodeling to desmosomal plaque assembly via RhoA. *Mol. Biol. Cell.* **21**, 2844-2859.
19. Green, K.J., Niessen, C.M., Godsel, L.M., and Kulesz-Martin, M.F. (2013) Montagna symposium 2012: keeping it all together-adhesion, the cytoskeleton, and signaling morphogenesis and tissue function. *J Invest Dermatol.* **133**, 1124-1128.
20. Hobbs, R.P., Godsel, L.M., and Green, K.J. (2013) Response to Garrod. Comment on The assay that defines desmosome hyper-adhesion [J Invest Dermatol 2013] and Desmoplakin regulates desmosome hyperadhesion [J Invest Dermatol 2012]. *J Invest Dermatol.* **133**, 578-579.
21. Chen, J., Nekrasova, O.E., Patel, D.M., Klessner, J.L., Godsel, L.M., Koetsier, J.L., Amargo, E.V., Desai, B.V. and Green, K.J. (2012) The C-terminal unique region of desmoglein 2 inhibits its internalization via tail-tail interactions. *J Cell Biol.* **199**, 699-711.

22. Koetsier, J.L., Amargo, E.V., Todorovic, V., Green, K.J. and Godsel, L.M. † (2013) Plakophilin 2 affects cell migration by modulating focal adhesion dynamics and integrin protein expression. *J Invest Dermatol.* (submitted) (†corresponding author)
23. Todorovic, V., J.L. Koetsier, **L.M. Godsel** and K.J. Green (2014). Plakophilin 3 mediates Rap1-dependent desmosome assembly and adherens junction maturation. *Mol. Biol. Cell.* 25: 3749-3764.
24. McAleer, M.A., E. Pohler, F.J. Smith, N.J. Wilson, C. Cole, S. MacGowan, J.L. Koetsier, **L.M. Godsel**, R.M. Harmon, R. Gruber, D. Crumrine, P.M. Elias, M. McDermott, K. Butler, A. Broderick, S. Sarig, E. Sprecher, K.J. Green, W.H. McLean. (2015). Severe dermatitis, multiple allergies, and metabolic wasting syndrome caused by a novel mutation in the N-terminal domain of desmoplakin. *J Allergy Clin Immunol.* (Epub ahead of print, Jun12).

Scholarly Bibliography: Peer-reviewed and invited review articles

1. Godsel, L.M., Donelson, J.E., and Engman, D.M. (1996) Flagellar calcium-binding protein. In Guidebook to the Calcium-Binding Proteins (Celio, M.R., Pauls, T. and Schwaller, B., eds.), Oxford University Press, Oxford, pp. 69-71. (Invited)
2. Godsel, L.M., Leon, J.S. and Engman, D.M. (2003) Angiotensin converting enzyme inhibitors and angiotensin II receptor antagonists in experimental myocarditis. *Curr. Pharm. Des.* **9**, 723-735. (Invited)
3. Godsel, L.M., Getsios, S., Huen, A.C. and Green, K.J. (2004) The molecular composition and function of desmosomes. *Handbook of Experimental Pharmacology: Cell Adhesion.* **165**, 137-193. (Invited)
4. Dusek, R.L., Godsel, L.M. and Green, K.J. (2007) Discriminating roles of desmosomal cadherins: beyond desmosomal adhesion. *J. Dermatol. Sci.* **45**, 7-21. (Invited)
5. Godsel, L.M.†, Hobbs, R.P. and Green, K.J. (2008) Intermediate filament assembly: dynamics to disease. *Trends Cell Biol.* **18**, 28-37. (†corresponding author) (Invited, reviewed)
6. Green, K.J., Getsios, S., Troyanovsky, S. and Godsel, L.M. (2010) Intercellular junction assembly, dynamics and homeostasis. In Cell-Cell Junctions (Fuchs, E and Nelson, WJ, eds.). *Cold Spring Harb Perspect Bio.* 2010;2:a000125. (invited)
7. Bass-Zubek, A.E., Godsel, L.M., Delmar, M., and KJ Green (2009). Plakophilins: multifunctional scaffolds for adhesion and signaling. *Curr. Op. Cell Biol.* **21**, 1-9. (invited)