

CURRICULUM VITAE

CLAUDIA GOTTSTEIN, MD

University of California at Santa Barbara
Dept. of Molecular, Cellular and Developmental Biology
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PROFESSIONAL HISTORY

- 2009 – present University of California at Santa Barbara
Adjunct Assistant Professor
Department of Molecular, Cellular and Developmental Biology
- 2008 – present University of California at Santa Barbara
California NanoSystems Institute / Neuroscience Research Institute
Director of Biological NanoStructures Laboratory
Senior Research Scientist (Asst. Professional Researcher)
- 2005 – 2008 University of California at Santa Barbara
Department of Chemical Engineering / California NanoSystems Institute
Senior Research Scientist (Asst. Project Scientist)
- 1999 - 2005 Albertus Magnus University Cologne, Cologne, Germany
Department of Hematology / Oncology
Head of Experimental Oncology and Vascular Biology Laboratory
- 1997 - 1998 University of Texas Southwestern Medical Center at Dallas, TX
Department of Pharmacology
Junior Faculty Member (Assistant Instructor)
- 1995 - 1996 University of Texas Southwestern Medical Center at Dallas, TX
Department of Pharmacology
Postdoctoral Fellow
Mentor: Professor Philip E. Thorpe

EDUCATION

- 1995 Doctor of Medicine, *summa cum laude*
Albertus Magnus University Cologne, Cologne, Germany
Thesis: Immunotoxins Against Neuroblastoma: Generation of Ricin-A chain
Immunotoxins directed against GD2 and gp190 and their Evaluation *in vitro*
and *in vivo*
Mentors: Professor Volker Diehl, Professor Andreas Engert
- 1994 Medical School Graduation
Albertus Magnus University Cologne, Cologne, Germany and
Robert Wood Johnson Medical School, Brunswick, NJ
- 1994 Bachelor of Science (Sports for Prevention/Rehabilitation of Cancer and
Cardiovascular Diseases, Teaching Degree)
DSHS Cologne
Thesis: Epidemiologic Data on the Most Frequent Cancer Types
Mentor: Professor Klaus Schüle

SELECTED CLASSES OF CONTINUING EDUCATION

Harvard Medical School, Boston, MA
Tumor Microcirculation, Angiogenesis and Metastasis

CSH Laboratories, Cold Spring Harbor, NY
Monoclonal Antibody Libraries and Phage Display

International Business Communications, La Jolla, CA
Antibody Engineering

International Business Communications, Boston, MA
Display Technologies

NATO Advanced Study Institute, held at Cape Sounion, Greece
Targeting of Drugs: The challenge of peptides and proteins

MD Anderson Cancer Center, Houston, TX
Molecular Targets for Cancer Therapy and Prevention

HONORS AND AWARDS

1995 *summa cum laude* for Doctorate Thesis (University Cologne)
1995 Postdoctoral Fellowship (German Research Council, DFG)
2004 Innovation Award: 1st Price in patent contest "Innovation Cologne" (Cell Center
 Cologne, under the auspices of the Ministry for Science and Research)

PROFESSIONAL MEMBERSHIPS

American Association for Cancer Research
German Cancer Society
American Institute of Chemical Engineers
Cold Spring Harbor Alumni Association
Society of Laboratory Animal Sciences

PATENTS

Several patents filed and awarded in the field of biomedical research

RESEARCH INTERESTS

Bioengineering in angiogenesis and nanomedicine for translational cancer research
Antibody directed drug targeting for cancer and vascular diseases
Tumor initiating cells
Site directed coagulation/fibrinolysis

SELECTED PUBLICATIONS (from 44 publications)

1. Gottstein, C., G. Schön, S. Tawadros, D. Kube, U.C. Wargalla-Plate, M.L. Hansmann, H.H. Wacker, F. Berthold, V. Diehl, A. Engert (1994) Antidisialoganglioside ricin A-chain immunotoxins show potent antitumor effects *in vitro* and in a disseminated human neuroblastoma severe combined immunodeficiency mouse model. *Cancer Research* 54: 6186-6193.
2. Winkler, U., C. Gottstein, G. Schön, U. Kapp, J. Wolf, M.L. Hansmann, H. Bohlen, P. Thorpe, V. Diehl, A. Engert (1994) Successful treatment of disseminated human Hodgkin's disease in SCID mice with deglycosylated ricin A-chain immunotoxins. *Blood* 83: 466-475.
3. Gottstein, C., U. Winkler, H. Bohlen, V. Diehl, A. Engert (1994) Immunotoxins: Is there a clinical value? *Annals of Oncology* 5, Suppl. 1: S97 – S103.
4. Kapp, U., A. Dux, E. Schell-Frederick, N. Banik, M. Hummel, S. Mucke, C. Fonatsch, J. Bullerdiek, C. Gottstein, A. Engert (1994) Disseminated growth of Hodgkin's-derived cell lines L540 and L540cy in immune-deficient SCID mice. *Annals of Oncology* 5, Suppl. 1: S121-S126.
5. Engert, A., C. Gottstein, U. Winkler, P. Amlot, S. Pileri, V. Diehl, P. Thorpe (1994) Experimental treatment of human Hodgkin's disease with ricin A-chain immunotoxins. *Leukemia & Lymphoma* 13, 441-448.
6. Engert, A., C. Gottstein, H. Bohlen, U. Winkler, G. Schön, O. Manske, R. Schnell, V. Diehl, P. Thorpe (1995) Cocktails of ricin A-chain immunotoxins against different antigens on Hodgkin and Sternberg-Reed cells have superior anti-tumor effects against H-RS cells *in vitro* and solid Hodgkin tumors in mice. *International Journal of Cancer* 63: 304-309.
7. Gottstein, C., G. Schön, S. Tawadros, M.L. Hansmann, F. Berthold, A. Engert. (1996) A disseminated human neuroblastoma model. In: *Immunodeficient Animals: Models for Cancer Research. Contributions in Oncology Vol 51*, W. Arnold, P. Koepf-Maier, B. Micheel (Hrsg.) Karger, 193-197.
8. Derbyshire, E.J., C. Gottstein, P. Thorpe. (1997) Immunotoxins. In: *Immunochemistry 1: A practical approach*. M. Turner, A. Johnston (Hrsg.) Oxford University Press, 239-273.
9. Huang, X., C. Gottstein, R.A. Brekken, P. Thorpe (1998) Expression of VEGF receptor 2 and characterization of its binding to VEGF via surface plasmon resonance. *Biochemical and Biophysical Research Communications* 252: 643-648.
10. Gottstein, C., R. Forde (1999) *In vivo* measurement of biodistribution kinetics of radiolabeled compounds in laboratory animals. *Biotechniques* 27: 934-938.
11. Gottstein, C., W. Wels, B. Ober, P.E. Thorpe (2001) Generation and characterization of recombinant Vascular Targeting Agents from hybridoma cell lines. *Biotechniques* 30: 190-200.
12. Tur, M.K., S. Sasse, M. Stocker, K. Djabekhir, M. Huhn, B. Matthey, C. Gottstein, T. Pfitzner, A. Engert, S. Barth (2001) An anti-GD2 single chain Fv selected by phage display and fused to Pseudomonas exotoxin A develops specific cytotoxic activity against neuroblastoma derived cell lines. *International Journal of Molecular Medicine* 8: 579-584.
13. Forde, R., C. Gottstein, D. Lange (2001) Improved analytical methodology for the detection of *cryptosporidium* and *giardia*. *International Environmental Technology* 11: 37-39.
14. Gottstein, C., R. Forde (2002) Affinity chromatography system for parallel purification of recombinant proteins. *Protein Engineering* 15: 775-777.
15. Philipp, J., A. Dienst, M. Unruh, A. Wagener, A. Grunow, A. Engert, J.W.U. Fries, C. Gottstein (2003) Soluble tissue factor induces coagulation on tumor endothelial cells *in vivo* if coadministered with low-dose lipopolysaccharides. *Arteriosclerosis Thrombosis and Vascular Biology* 23:905-910.
16. Borchmann P., J.F. Tremblé, H. Hansen, C. Gottstein, R. Schnell, O. Staak, H.F. Zhang, T. Davis, T. Keler, V. Diehl, R.F. Graziano, A. Engert (2003) The new fully human anti-CD30 antibody 5F11 shows *in vitro* and *in vivo* activity against Hodgkin lymphoma. *Blood* 102: 3737-3742.
17. Jousseaume, A., B. Kirchhof, C. Gottstein (2003) Molecular mechanisms of vasculogenesis and angiogenesis. [Molekulare Mechanismen der Vaskulogenese und Angiogenese.] *Der Ophthalmologe* 100: 284-291.
18. Unruh, M., A. Grunow, C. Gottstein (2005) Systemic coagulation parameters in mice after treatment with vascular targeting agents. *Thrombosis Journal* 3:21-33.
19. Gosk, S., C. Gottstein, G. Bendas (2005) Targeting of immunoliposomes to endothelial cells expressing VCAM: a future strategy in cancer therapy. *Int J Clin Pharmacol Ther* 43: 581-582.
20. Ding, B.S./Gottstein C., A. Grunow, A. Kuo, K. Ganguly, S.M. Albelda, D.B. Cines, V.R. Muzykantov (2005) Endothelial targeting of a recombinant construct fusing a PECAM-1 single-chain

variable antibody fragment (scFv) with prourokinase facilitates prophylactic thrombolysis in the pulmonary vasculature. *Blood* 106: 4191-4198.

21. Dienst, A., A. Grunow, M. Unruh, B. Rabausch, J.E. Nor, J.W.U. Fries, C. Gottstein (2005) Specific occlusion of murine and human tumor vasculature by VCAM-1 targeted recombinant fusion proteins. *Journal of the National Cancer Institute*, 97:733-747.

22. Danielyan, K., B.S. Ding, C. Gottstein, D.B. Cines, V.R. Muzykantov (2007) Delivery of anti-platelet-endothelial cell adhesion molecule single-chain variable fragment-urokinase fusion protein to the cerebral vasculature lyses arterial clots and attenuates postischemic brain edema. *Journal of Pharmacology and Experimental Therapy* 321:947-52.

23. Ding, B.S., N. Hong, J-C. Murciano, K. Ganguly, C. Gottstein, M. Christofidou-Solomidou, S.M. Albelda, A.B. Fisher, D.B. Cines, V.R. Muzykantov (2008) Prophylactic thrombolysis by thrombin-activated latent pro-urokinase targeted to PECAM-1 in the pulmonary vasculature. *Blood* 111:1999-2006.

24. Gosk, S., T. Moos, C. Gottstein/G. Bendas (2008) VCAM-1 directed immunoliposomes selectively target tumour vasculature *in vivo*. *Biochimica et Biophysica Acta* 1778:854-863.

25. Dane, K., C. Gottstein, P.S. Daugherty (2009) Cell surface profiling with peptide libraries yields ligand arrays that classify breast tumor subtypes. *Molecular Cancer Therapeutics*, in press.

26. Ding, B.-S., N. Hong, M. Christofidou-Solomidou, C. Gottstein, S.M. Albelda, D.B. Cines, A.B. Fisher, V.R. Muzykantov (2009) Anchoring fusion thrombomodulin to endothelial lumen protects from lung thrombosis and inflammation. *American Journal of Respiratory and Critical Care Medicine*, in press.

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