David A. Norris

I. Biographical Sketch

II. Bibliography

I. Biographical Sketch

A. Personal:

Name:	David Albert Norris, M.D.
Date and Place of Birth:	March 2, 1947; Baltimore, Maryland
Current Position:	Professor and Chairman, Department of Dermatology, University of Colorado School of Medicine

B. Professional Education:

Johns Hopkins University, 1965–1969, B.A.
Duke University Medical School, 1969–1972, M.D.
Duke University, Sub Fellowship in Hematology and Oncology, 1973.
Ohio State University, Internship in Internal Medicine, 1973–1974.
University of Colorado School of Medicine, Dermatology Residency, 1974–1977.

C. Licensure: Colorado, 1974.

D. Board Certification:

Dermatology, 1978.

Dermatologic Immunology and Diagnostic and Laboratory Immunology, 1985.

E. Professional Experience:

Assistant Professor of Dermatology, 1977.
Associate Professor of Dermatology, 1981.
Chief of Dermatology Services, Denver Department of Veterans Affairs Hospital, 1989–2002.
Professor of Dermatology, 1990.
Chairman of Dermatology Department, University of Colorado Health Sciences Center, 2001.

F. Major Scientific Interests:

Immunodermatology: Cytotoxic mechanisms in skin disease, epidermal keratinocytes as targets and modulators of inflammation. Cellular interactions in skin diseases. Effects of ultraviolet radiation (UVR) on epidermal cytokines.
Melanocyte Biology: Melanocytes as targets of cytotoxic damage, control of melanocyte pigmentation and proliferation. Antioxidant defenses of melanocytes, factors controlling melanocyte migration.
Melanoma: Effects of UVR on the epidermal environment, which influence melanoma development.
Apoptosis in Cutaneous Biology: Anti-apoptotic defenses in keratinocytes and melanocytes. Resistance of cutaneous T cell lymphoma to apoptosis. Anti-apoptotic defenses in melanoma.
Alopecia Areata: Clinical trials using modern biological treatments.

G. Honors, Awards, and Memberships:

Stelwagon Award, 1977
Phi Beta Kappa
American Society for Clinical Investigation
Austrian Dermatological Society
Honorary Member: Japanese Society for Investigative Dermatology
Korean Society for Investigative Dermatology
President, Society for Investigative Dermatology, 1998–1999
Chairman, Medical and Scientific Review Committee - Psoriasis Foundation, 1994
Editor-in-Chief, *Journal of Investigative Dermatology,* 1987–1992
NIAMS Special Study Section, 1989–1994
Chairman, Scientific Program Committee, Society for Investigative Dermatology, 1985
General Medicine Study Section, 1985–1987.

H. Research Funding:

1. Cytotoxic Mechanisms in Cutaneous Disease (Active)
R01-AR26427-23 10/1/03–9/30/08
PI: David Norris, M.D.

A comprehensive study of the defense mechanisms that protect epidermal melanocytes and keratinocytes from immunologic cytotoxicity, especially the induction of apoptosis.

Specific Goals:

1. To confirm that bcl-2 is a major anti-apoptotic defense in melanocytes and melanoma cell lines, and to demonstrate that the high levels of bcl-2 in these cells depend on activation of the ras signaling pathway by integrin or neurotrophin receptor ligation. High bcl-2 expression will be shown to render melanocytes and melanoma cells resistant to immunologic cytotoxicity.
2. To verify that keratinocyte resistance to apoptosis can also be modulated by activation of ras signaling pathways by integrins or neurotrophin receptors. To demonstrate the susceptibility of keratinocytes to immunologic cytotoxicity will be modulated by ras activation or inactivation.
3. To determine whether p53 activation decreases anti-apoptotic defenses in keratinocytes in the same way that it does in melanocytes/melanomas.

2. Mechanisms of Progression of Malignant Melanoma
PI: Katheryn Resing 4/01/01–03/31/06
Consultant: David Norris

This is a collaborative project with Katheryn Resing, PhD, and Natalie Ahn, PhD, in the Department of Chemistry at the University of Colorado in Boulder to apply proteomic approaches to the study of progression of malignant melanoma, with special focus on the shift from radial to vertical growth phase melanoma.

3. Training in Immunodermatology (Active)
NIAMS 2T32 AR007411-22 05/01/03–04/30/07
PI: David Norris, M.D.

This is a training grant to support a minimum of two years of postdoctoral training in Immunodermatology for a full time career in Academic Dermatology in the Department of the University of Colorado School of Medicine. We will build upon the success of the previous funding periods by expanding the opportunities and scope of science for trainees in molecular biology and molecular genetics with emphasis on skin cancer immunology and autoimmunity.

4. Registry for Alopecia Areata (Active)
PI: Madeleine Duvic, M.D. 12/01/00–11/30/05
Co-PI: David Norris, M.D.
NIAMS

5. **Annual Symposium on the Biology of Skin** (Active)
   7R13 AR09431 08/01/92 – 05/31/01
   PI: David Norris, M.D. $100,000
   NIAMS $20,000

I. Mentor in Funded Research Projects:

1. **Proteomics of Melanoma Progression**
   PI: Katheryn Resing 04/01/01–03/31/06
   Consultant: David Norris
2. **Molecular Mechanisms in Acanthosis Nigricans** (Active)
   KO8 AR02075-01 04/01/99–03/31/04
   PI: Gary Bellus, M.D., Ph.D.
   Mentor/Consultant: David Norris, M.D.
3. **Lovastatin in Malignant Melanoma Prevention** (Active)
   K07 CA092550-02 06/04/02–05/31/07
   PI: Robert Dellavalle, M.D. Ph.D.
   Mentor/Consultant: David Norris, M.D.
4. **Clinical Basic Investigations into MLS/Leopard Syndrome**
   K23 AR049214-01 07/1/03–6/29/08
   PI: Theresa Pacheco, M.D.
   Mentor/Consultant: David Norris, M.D.
5. **Clinical and Basic Investigations into MLS/Leopard Syndrome**
   PI: Theresa Pacheco 12/01/02–11/30/07
   NIAMS K23
   Mentors: Richard Spritz
   David Norris
   Pamela Fain
6. **Melanoma Chemoprevention Case-Control Study**
   PI: Robert Dellavalle 12/01/02–11/30/07
   Mentors: Richard Hamman
   Tim Byers
   David Norris

J. Clinical Activities:

All previous activities at University of Colorado Health Sciences Center:
Director of Mycosis Fungoides Clinic
Director of Phototherapy Unit
Current:

1. University Hospital: Active clinical practice specializing in skin cancer and melanoma, cutaneous T cell lymphoma, severe psoriasis, immunobullous disorders, severe eczema, autoimmune skin diseases and severe acne vulgaris.

2. New subspecialty clinics opening at Anschutz Cancer Center
   (a) Alopecia Areata Registry (NIAMS funded)
   (b) Vitiligo Repigmentation Clinic with Dr. Morelli
   (c) Pemphigus IVIG Study

K. Teaching:

25 years of teaching of residents and medical students with excellent evaluations on file in the Department of Dermatology

21 years of supervision of research fellows and postdoctoral fellows (name and last academic institution): Miyoko Kubo (SUNY Stoneybrook), Karen Fritz, (Univ. of Texas) Fukumi Furukawa (Chairman, Department of Dermatology Wakayama Medical School), Lela Lee (UCHSC), Mari Sawami (Kyoto University), Kathleen David-Bajar (UT-San Antonio) Jenny Muglia (Brown University), Joseph Morelli (UCHSC), Joseph Yohn (UCHSC), Jeff Travers (Indiana Univ.), Kyu Whang (Chairman, Department of Dermatology Soonchunhyang University), Mayumi Fujita (UCHSC), Marja Makela (Univ. of Helsinki), Young-Lip Park, (Dermatology Soonchunhyang University), Hiroaki Yagi (Hammamatsu Univ), Theresa Pacheco (UCHSC), Gary Bellus (UCHSC), Yiqun Shellman (UCHSC), Robert Dellavalle (UCHSC), Jean Urquhart (UCHSC).

Formal Presentations at major dermatology clinical and research meetings for 25 years.

Organizer of the Basic Immunology Course at the American Academy of Dermatology Meeting for 5 consecutive years.

Program Committee Chairman of the Society for Investigative Dermatology Meeting in 1985.

Regularly invited lectureships at numerous major medical schools in the US and abroad for the past 21 years.

Worked with Curriculum Committee of the School of Medicine to include Dermatology for the first time as a required component of the Medical School Curriculum.

Active member of new Curriculum Improvement Taskforce: 2003.

Director of the Symposium on the Biology of Skin 1992-Present: This meeting, now in its 52nd year, is a model for attracting young Dermatologists to academic careers, and for fostering collaboration between investigative dermatologists and scientists from other disciplines. It has been continuously funded by NIAMS for 34 years.

II. Bibliography:

19 peer-reviewed publications selected out of 125 articles and 30 chapters or books

1) K. Bernard, E. Litman, J. L. Fitzpatrick, Y. G. Shellman, Gretchen Argast, Kirsi Polvinen, Allen D. Everett, Kenji Fukasawa, Meenhard Herlyn, **David A. Norris,** Natalie G. Ahn, and Katheryn A. Resing, Functional proteomic analysis of melanoma progression Cancer Research (In Press)

2) Shellman, Y. G., Park, Y., Marr, D. G., Casper, K., Xu, Y., Fujita, M., Swerlick, R., and **Norris, D.A.** Release of VEGF from Human Melanoma Cell Lines is Induced by Hypoxia but Not Ultraviolet Radiation, and Is Potentiated by Activated Ras Mutation J. Invest. Dermatol. (In press)

3) **Norris, D.A.** Alopecia Areata: How close are we to solving the puzzle? J. Invest Dermatol. (In Press)

4) Mahajan RL, Zhang H, Yi M, Finch D, Kreith F, Pacheco T, Shellman Y, **Norris DA:** Spiral Applicator design for Hyperthermia Treatment of Superficial Tumors. Proceedings of the 6th ISHMT/ASME (In Press).

5) Urquhart JL, Meech S, Shellman YG, Duke RC, **Norris DA:** Regulation of Fas-Mediated Apoptosis by Ras in Melanoma Cell Lines. J. Invest. Dermatol. 119:556–561, 2002

6) Khlgatian MK, Asawonda P, Yaar M, Eller MS, Fujita M, **Norris DA,** Gilchrest BA: Tyrosinase gene Expression is regulated by p53. J. Invest. Dermatol. 118:126–132, 2002.

7) Lin W-J, **Norris DA,** Achziger M, Kotzin BL, Tomkinson B: Oligoclonal Expansion of Intraepidermal T Cells in Psoriasis Lesions. J.Invest. Dermatol. 117:1546–1553, 2001.

8) Meech SJ, Edelson R, Walsh P, Norris DA, Duke RC: Reversible resistance to apoptosis in cutaneous T cell lymphoma (CTCL), Ann NY Acad Sci 941: 46–58, 2001.

9) Pacheco TR, Maxwell F, Vasiloudes PE, Robinson WA, **Norris DA,** Maxwell IH: Positive tetracycline control of expression of p151NK4B from an Epstein-Barr autonomous plasmid in a human melanoma cell line. Gene 242:249–256, 2000.

10) Shellman YG, Chapman JT, Fujita M, **Norris DA,** Maxwell IH: Expression of Activated N-ras in a Primary Melanoma Cell Line Counteracts Growth Inhibition by Transforming Growth Factor-ß. J. Invest. Dermatol. 114:1200–1204, 2000.

11) Travers JB, Hamid QA, **Norris DA,** Kuhn C, Giorno RC, Schlievert PM, Farmer ER, Leung DYM: Epidermal HLA-DR and the enhancement of cutaneous reactivity to superantigenic toxins in psoriasis. J. Clin. Invest. 104:1181–1189, 1999.

12) Fujita M, **Norris DA,** Walsh P, Morelli JG, Weston WL, Terada N, Bennion SD, Robinson WA, Lemon M, Maxwell IH, and Yohn JJ: Over expression of mutant ras in human melanoma increases invasiveness and enhances anchorage independent growth in vitro and induces tumor formation and cachexia in vivo. Melanoma Res. 9:279–291, 1999.

13) Jirapongsananuruk O, Hofer MF, Trumble AE, **Norris DA,** Leung DYM: Enhanced expression of B7.2 (CD86) in patients with atopic dermatitis: A potential role in the modulation of IgE synthesis. J. Immunol. 160:4622–4627, 1998.

14) Robinson WA, Lemon M, Elefanty A, Harrison-Smith M, Markham N and **Norris DA:** Human Acquired nevi are clonal. Melanoma Res. 8(6):499–503, 1998.

15) **Norris DA,** Middleton MH, Whang K, McGovern T, Bennion SD, David-Bajar K, Davis D, Duke RC: Human keratinocytes maintain reversible anti-apoptotic defenses in vivo and in vitro. Apoptosis 2:136–148, 1997.

16) Seline PC, **Norris DA,** Horikawa T, Fujita M, Middleton MH, Morelli JG: Expression of E and P-cadherin by melanoma cells decreases in progressive melanomas and following

ultraviolet radiation. J. Invest. Dermatol. 106:1320–1324, 1996.

17) Ezepchuk YV, Leung DYM, Middleton MH, Bina P, Reiser R, **Norris DA:** Staphylococcal toxins and protein A differentially induce cytotoxicity and release of tumor necrosis factor-a from human keratinocytes. J. Invest. Dermatol. 107:603–609, 1996.

18) Horikawa T, **Norris DA,** Johnson TW, Zekman T, Dunscomb N, Bennion SD, Jackson RL, Morelli JG: DOPA-negative melanocytes in the outer root sheath of human hair follicles express premelanosomal antigens but not a melanosomal antigen or the melanosome-associated glycoproteins tyrosinase, TRP-1, and TRP-2. J. Invest. Dermatol. 106:28–35, 1996.

19) Leung DYM, Travers JB, Giorno R, **Norris DA,** Skinner R, Aelion J, Kazemi LV, Kim MH, Trumble AE, Kotb M, Schlievert PM: Evidence for a streptococcal superantigen-driven process in acute guttate psoriasis. J. Clin. Invest. 96:2106–2112, 1995.