

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
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NAME John DiGiovanni	POSITION TITLE Professor		
eRA COMMONS USER NAME JDIGIOVANNI			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Washington, Seattle, WA	BS	1974	Pharmacy
University of Washington, Seattle, WA	PhD	1978	Pharmacology
University of Wisconsin, McArdle Lab, Madison, WI	Postdoctoral	1978-80	Oncology/Carcinogenesis

A. Personal Statement: Research interests in my laboratory focus on 6 major areas: i) identifying critical targets and mechanisms involved in the initiation and promotion stages of chemical as well as UV skin carcinogenesis; ii) identification of genetic determinants of susceptibility to chemically-induced skin cancer; iii) exploring novel prevention strategies for inhibiting chemical and UV skin carcinogenesis; and iv) development of new mouse models for cancer, including models for skin, prostate and head and neck cancers; v) impact of dietary energy balance, especially obesity on development and progression of both skin and prostate cancer; and finally vi) role of Stat3 psoriasis.

B. Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

- 1974-1978 NIH Pre-doctoral Trainee, University of Washington
1978-1980 Postdoctoral Trainee, McArdle Laboratory for Cancer Research, Univ. of Wisconsin, Madison, WI
1980-1982 Research Associate, The Wistar Institute of Anatomy and Biology, Philadelphia, PA
1982-1983 Assistant Professor, The Wistar Institute of Anatomy and Biology, Philadelphia, PA
1983-pres. Adjunct Professor of Pharmacology, UT Austin, College of Pharmacy, Austin, TX
1983-1986 Assistant Biochemist and Assistant Professor of Biochemistry, The University of Texas M.D. Anderson Cancer Center, Science Park - Research Division, Smithville, TX
1986-1992 Associate Professor of Carcinogenesis, The University of Texas M. D. Anderson Cancer Center, Science Park - Research Division, Smithville, TX
1987-1991 Member, Metabolic Pathology Study Section, N.C.I.
1992-2009. Professor, Department of Carcinogenesis, The University of Texas M.D. Anderson Cancer Center, Science Park - Research Division, Smithville, TX
1994-1997 Associate Director, Deputy Chairman, Department of Carcinogenesis, The University of Texas M.D. Anderson Cancer Center, Science Park - Research Division, Smithville, TX
1996-2009. Director, NIEHS Center for Research on Environmental Disease, The University of Texas M.D. Anderson Cancer Center, Science Park - Research Division, Smithville, TX and UT Austin
1997-2009. Leader, Carcinogenesis Program, CCSG, The UT M. D. Anderson Cancer Center, Houston
1997-1999 Director and Chairman, *Ad Interim*, Department of Carcinogenesis, The University of Texas M.D. Anderson Cancer Center, Science Park - Research Division, Smithville, TX
1999-2009 Director and Chairman, Dept. of Carcinogenesis, The University of Texas M.D. Anderson Cancer Center, Science Park - Research Division, Smithville, TX
2010-pres. Professor and Coulter R. Sublett Chair, Division of Pharmacology and Toxicology, College of Pharmacy and Department of Nutritional Sciences, School of Human Ecology, UT Austin

Awards and Honors

NSF-URP Research Awards, 1972; Rho Chi Award, 1973; National Kilmer Prize, 1974; Certificate of High Scholarship, University of Washington, 1974; Faculty Research Award, American Cancer Society, 1990-1995 Ruth and Walter Sterling Professorship, 1997 – 1999; University of Washington School of Pharmacy Distinguished Alumnus, 1998; J. Ralph Meadows Chair in Carcinogenesis, 1999-present; The Margaret and James A. Elkins, Jr., Faculty Achievement Award in Cancer Prevention, UTMDACC, 2006; Coulter R. Sublett Chair in Pharmacy, 2010-to date.

C. Selected peer-reviewed publications (Selected from a list of over 230)

1. Sano S, Chan KS, Carbajal S, Clifford J, Peavy M, Kiguchi K, Itami S, Nickeloff BJ, DiGiovanni J. Stat3 links activated keratinocytes and immunocytes for development of psoriasis in a novel transgenic mouse model. *Nat Med* 11:43-49, 2005.
2. Sano S, Chan KS, Kira M, Takagi S, Tarutani M, Itami S, Kiguchi K, Yokoi M, Sugusawa K, Mori T, Hanaoka F, Takeda J, DiGiovanni J. Stat3 is a key regulator of keratinocyte survival and proliferation following ultraviolet irradiation. *Cancer Res* 65:5720-5729, 2005
3. Kiguchi K, Ruffino L, Kawamoto T, Franco E, Kurakata S-i, Fujiwara K, Hanai M, Rumi M, DiGiovanni J. Therapeutic effect of CS-706, a specific COX-2 inhibitor, on gallbladder carcinoma in BK5.ErbB-2 mice. *Mol Cancer Therapeutics* 6:1709-1717, 2007.
4. Segrelles C, Lu J, Hammann B, Santos M, Moral M, Cascallana J, Lara M, Rho O, Carbajal S, Traag J, Beltran L, Martinez-Cruz AB, Garcia-Escudero R, Lorz C, Ruiz S, Bravo A, Paramio JM, DiGiovanni J. Deregulated activity of Akt in epithelial basal cells induces spontaneous tumors and heightened sensitivity to skin carcinogenesis. *Cancer Res* 67:10879-10888, 2007.
5. Chan K, Sano S, Kataoka K, Abel E, Carbajal S, Beltran L, Clifford J, Peavey M, Shen J, DiGiovanni J. Forced expression of a constitutively active form of Stat3 in mouse epidermis enhances malignant progression of skin tumors induced by two-stage carcinogenesis. *Oncogene* 14:1087-1094, 2008.
6. Moore T, Beltran L, Carbajal S, Strom S, Hursting SD, DiGiovanni J. Dietary energy balance modulates signaling through Akt/mTOR pathways in multiple epithelial tissues. *Cancer Prev Res* 1:65-76, 2008.
7. Moore T, Carbajal S, Beltran L, Perkins SN, Yakar S, LeRoith D, Hursting SD, DiGiovanni J. Reduced susceptibility to two-stage skin carcinogenesis in mice with low circulating IGF-1 levels. *Cancer Res* 68:3680-3688, 2008.
8. Kataoka K, Kim DJ, Carbajal S, Clifford J, DiGiovanni J. Stage-specific disruption of Stat3 demonstrates a direct requirement during both the initiation and promotion stages of mouse skin tumorigenesis. *Carcinogenesis* 29:1108-1114, 2008.
9. Segrelles C, Moral M, Lorz C, Santos M, Lu J, Cascallana JL, Lara MF, Carbajal S, Martinez-Cruz AB, Garcia-Escudero R, Beltran L, Segovia JC, Bravo A, DiGiovanni J, Paramio JM. Constitutively active Akt induces ectodermal defects and impaired bone morphogenetic protein signaling. *Mol Biol Cell* 19:137-49, 2008.
10. Wang G, Carbajal S, Vijn J, DiGiovanni J., Vasquez KM. DNA structure-induced genomic instability *in vivo*. *JNCI* 100:1815-1817, 2008.
11. Kleiner H, Xia X, Sonoda J, Zhang J, Pontius E, Abey J, Evans RM, Moore D, DiGiovanni J. Effects of naturally occurring coumarins on hepatic drug metabolizing enzymes in mice. *Tox Applied Pharm* 232:337-50, 2008.
12. Liu B, Xia X, Carbajal S, DiGiovanni J, Fischer S, Hu Y. IKKa deletion in keratinocytes causes cell-autonomous epidermal hyperplasia that is rescued by inactivation of the EGF receptor. *Cancer Cell* 14:212-225, 2008.
13. Moral M, Segrelles C, Lara MF, Martinez AB, Lorz C, Santos M, Garcia R, Lu J, Kiguchi K, Buitrage A, Costa C, Saiz D, Rodriguez JL, Martinez-Tello FJ, Rodriguez-Pinilla M, Sanchez M, Garin M, Grande T, Bravo A, DiGiovanni J, Paramio J. Akt activation synergizes with Tp53 loss in oral epithelium to produce novel mouse model for head and neck squamous cell carcinoma. *Cancer Res* 69:1099-1108, 2009.
14. Kim DJ, Angel JM, Sano S, DiGiovanni J. Constitutive activation and targeted disruption of signal transducer and activator of transcription 3 (Stat3) in mouse epidermis reveal its critical role in UVB-induced skin carcinogenesis. *Oncogene* 28:950-960, 2009.
15. Kim DJ, Kataoka K, Rao D, Cotsarelis G, DiGiovanni J. Targeted disruption of Stat3 reveals a major role for follicular stem cells in skin tumor initiation. *Cancer Res*, 69:7587-7594, 2009.
16. Kim, D.J., Tremblay, M.L., DiGiovanni, J. UVB-mediated nuclear translocation of protein tyrosine phosphatase TC-PTP is required for rapid Stat3 dephosphorylation in skin. *PLoS One*, 5(4): e10290, 2010.
17. Kiguchi, K., Kitamura, T., Moore, T., Rumi, M., Chang, H., Treece, D., Ruffino, L., Connolly, K., DiGiovanni, J. Dual inhibition of both the EGFR and erbB2 effectively inhibits promotion of skin tumors during two-stage carcinogenesis. *Cancer Prevention Research*, 2010 Aug;3(8):940-52.
18. Miyoshi, K., Takaishi, M., Nakajima, K., Ikeda, M., Asao, N., DiGiovanni, J., Sano, S., Stat3 is a therapeutic target for psoriasis. *J. Invest. Dermatol*, 2010, Sep 2. [Epub ahead of print].
19. Abel, E.L., Angel, J.M., Riggs, P.K., Langfield, L, Awasthi, Y.C., DiGiovanni, J., Evidence That *Gsta4* Modifies Susceptibility to Skin Tumor Development in Mice and Humans. *JNCI*, in press, 2010.