

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed on Form Page 2.  
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Cooper, Michael K.		POSITION TITLE Assistant Professor	
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
Rhodes College, Memphis, TN	B.S.	1987	Biology
University of Alabama School of Medicine Birmingham, AL	M.D.	1992	Medicine

**A. Positions and Honors****Positions and Employment**

1989-1990	Howard Hughes Medical Student Research Training Fellowship with Jeffrey C. Hall, Brandeis University, Waltham, MA
1992-1993	Medicine Intern, Ochsner Clinic, New Orleans, LA
1993-1995	Neurology Resident, Johns Hopkins Hospital, Baltimore, MD
1995-1996	Neurology Chief Resident, Johns Hopkins Hospital, Baltimore, MD
1996-1999	Howard Hughes Postdoctoral Research Fellowship for Physicians with Philip A. Beachy, Johns Hopkins School of Medicine, Baltimore, MD
1999-2002	Research Associate, Department of Molecular Biology & Genetics, Johns Hopkins School of Medicine, Baltimore, MD
1999-2002	Research Associate, Department of Neurology and Department of Molecular Biology & Genetics, Johns Hopkins School of Medicine, Baltimore, MD
2000-2002	Active Staff, Department of Neurology, Johns Hopkins School of Medicine, Baltimore, MD
2002-present	Assistant Professor, Department of Neurology, Vanderbilt University School of Medicine, Nashville, TN

**Honors and Awards**

1989-1990	Howard Hughes Medical Student Research Fellow
1990	Jay Slotkin Award for Excellence in Research, Johns Hopkins School of Medicine, Department of Neurology
1990-1992	Howard Hughes Medical Institute Competitive Financial Support Award for completion of medical school
1992	Samuel Clements Little Award, University of Alabama School of Medicine, Department of Neurology
1996-1999	Howard Hughes Postdoctoral Research Fellow
1999-present	Burroughs Wellcome Career Award Recipient

**B. Selected Peer-Reviewed Publications**

Cooper, M. K., Hamblen-Coyle, M., Liu, X., Rutila, J., & Hall, J. C. (1994). Dosage compensation of the *period* gene in *Drosophila melanogaster*. *Genetics*, 138, 721-732.

Beachy, P. A., Cooper, M. K., Young, K. E., von Kessler, D. P., Park, W. J., Hall, T. M., Leahy, D. J., Porter, J. A. (1997). Multiple roles of cholesterol in hedgehog protein biogenesis and signaling. *Cold Spring Harb Symp Quant Biol*, 62, 191-204.

Cooper, M.K., Porter, J.A., Young, K.E., & Beachy, P.A. (1998). Teratogen-mediated inhibition of target-tissue response to *Shh* signaling. *Science*, 280, 1603-1607.

Chiang, C., Swan, R. Z., Grachtchouk, M., Bolinger, M., Litingtung, Y., Robertson, E. K., Cooper, M. K., Gaffield, W., Westphal, H., Beachy, P. A., & Dlugosz, A. A. (1999). Essential role for sonic hedgehog during hair follicle morphogenesis. *Dev Biol*, 205, 1-9.

Taipale, J., Cooper, M. K., Chen, J. K., Wang, B., Mann, R. K., Milenkovic, L., Scott, M.P., & Beachy, P. A. (2000). Effects of oncogenic mutations in Smoothed and Patched can be reversed by cyclopamine. *Nature*, 406, 1005-1009.

Munoz-Sanjuan, I., Cooper, M. K., Beachy, P. A., Fallon, J. F., & Nathans, J. (2001). Expression and regulation of chicken fibroblast growth factor homologous factor (FHF)-4 during craniofacial morphogenesis. *Dev. Dyn.*, 220, 238-245.

Berman, D. M., Karhadkar, S. S., Hallahan A. R., Pritchard, J. I., Eberhart, C. G., Watkins, D. N., Chen, J. K., Cooper, M. K., Taipale, J., Olson, J. M., & Beachy, P. A. (2002). Medulloblastoma growth inhibition by hedgehog pathway blockade. *Science*, 297,1559-1561.

Chen, J. K., Taipale, J., Cooper, M. K., Beachy, P. A. (2002). Inhibition of hedgehog signaling by direct binding of cyclopamine to smoothed. *Genes and Development*, 16, 2743-2748.

Taipale, J., Cooper, M. K., Maiti, T., Beachy, P. A. (2002). Patched acts catalytically to suppress the activity of smoothed. *Nature*, 418, 892-896.

Cooper, M. F., Wassif, C. A., Krakowiak, P. A., Taipale, J., Gong, R., Kelley, R. I., Porter, F. D., & Beachy, P. A. (2003). A defective response to Hedgehog signaling in disorders of cholesterol biosynthesis. *Nature Genetics*, 33, 508-513.

### **C. Research Support**

#### **Ongoing Research Support**

#992893

09/01/99 - 08/31/05

Burroughs Wellcome Fund

*Modulation of Sonic Hedgehog Signal Transduction by Cholesterol Homeostasis*

The goal of this project is to learn more about how a group of teratogens inhibit shh signaling with a particular emphasis on how cholesterol homeostasis impacts this signaling pathway.

Role: PI

K08 NS02133-03

09/01/99 – 05/31/05

NIH/NINDS

Teratogens as Probes of Sonic Hedgehog Signaling

The goal of this project is to learn more about how a group of teratogens inhibit shh signaling with a particular emphasis on how cholesterol homeostasis impacts this signaling pathway.

Role: PI