

Dwain K. Morris-Irvin, Ph.D., M.P.H

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Date of Birth: September 24, 1967
Current Position: Research Scientist II
Department of Neurosurgery
Cedars-Sinai Medical Center
Education: **BA**, Natural Sciences, 1988; The Johns Hopkins University, MD
MPH, Environmental Health Sciences, 1995; UCLA, CA
PhD, Molecular & Medical Pharmacology, 2002, UCLA, CA

Employment History:

1986 **Undergraduate Research**, The Johns Hopkins University, Psychology Department. Rodent Behavioral Analysis and Atropine.
1987 **Undergraduate Research**, The Johns Hopkins University, Francis Scott Key Hospital. Rodent Behavioral Analysis of Motivation and effects of Naloxone and other Opiate Antagonists.
1992-1993 **Field Researcher**, Community Health Sciences/Red Cross, UCLA School of Public Health. Education Assessment Research Project.
1993-1994 **Research Assistant**, Community Health Sciences, UCLA School of Public Health. Drs. Neuman, Principal Investigator. Sustainability in Public health Services.
1995-2002 **Doctoral Dissertation Research**: "Notch-DSL Signaling in the Mammalian CNS and Neural Stem Cells." Department of Molecular & Medical Pharmacology, UCLA, School of Medicine, Harley I. Kornblum, advisor.
2002-2005 **Postdoctoral Researcher** NIH, NIMH & NINDS Society for Neuroscience Postdoctoral Fellowship, Study the potential Role of cell Replacement therapy for the treatment of Parkinson's disease. Anders Björklund, advisor. Lund Stem Cell Center/Wallenberg Neuroscience Center, Lund University, Sweden.
2005-2007 **Research Scientist I**, Department of Neurosurgery, Cedars-Sinai Medical Center, Los Angeles, CA
2007-Present **Research Scientist II**, Department of Neurosurgery, Cedars-Sinai Medical Center, Los Angeles, CA

Teaching/Training:

1995-1997 **Instructor**, Stanley Kaplan, MCAT & DAT preparatory courses. CA.
1997-1998 **Teacher's Assistant**
Molecular and Cellular Developmental Biology course at UCLA, Biology Department.
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- Molecular and Cellular Developmental Biology course at UCLA, Biology Department.
- 2000-2001 **Teacher's Associate**
Molecular and Cellular Developmental Biology course at UCLA, Biology Department.
- 2002-2005 **Master's Thesis Supervisor**
Supervised two graduate students at the University of Lund, Department of Neurobiology.
- 2005-2007 **Instructor and Director** of Basic Science Summer Research Course Department of Neurosurgery, summer research training program for Medical, Graduate and Undergraduate neuroscience students, including Denzel Washington Scholar Award winners. Course provides basic cellular and molecular science instruction related to neurodegenerative diseases and brain tumors. Topics included, neural stem cell biology, neuro-immunology and neuro-oncology.
- March, 2007 **Faculty member** for NIH: Human Embryonic Stem Cell Training Course. Children's Hospital of Orange County, Brain Tumor biology section.

Professional Memberships

- 1998-2002 National Environmental Health Association
1996-current Society for Neuroscience
2005-current International Society for Stem Cell Research

Awards and Fellowships

- 1987 Merrill-Dowell Scholarship/Research Award (NIH, NIDA)
The Johns Hopkins University, Francis Scott Key Hospital
- 1995 UCLA Graduate Division Fellowship Award
1998 UCLA Graduate Division Fellowship Award
1999 UCLA Graduate Division Fellowship Award
2000 UCLA Graduate Division Fellowship Award
2001 UCLA Graduate Division Fellowship Award
2000 UCLA School of Medicine, Medical Pharmacology Travel Awards
2001 UCLA School of Medicine, Medical Pharmacology Travel Awards
2003-2005 NIH/ NIMH & NINDS Society for Neuroscience Postdoctoral
Minority Fellowship Award
2004-2007 NIH R01 Minority Supplement Award (NINDS)

Invited Lectures

- 2003 Max-Planck Institute, DANCE Meeting Gothenberg, Germany. Research Presentation
2003 IBRO World Conference. Stem Cells. Prague, Czech Republic. Research Presentation
2004 Lund Stem Cell Institute Symposium, Göteborg, Sweden. Research Presentation
2005 Mayo Clinic, Jacksonville, Florida, Presentation
2005 California State San Marcos, Biology Department, Research Presentation
2006 UCLA Stem Cell Club, Research presentation
2006 Burnham Institute, La Jolla, CA. Research Presentation
2007 UCLA Stem Cell Club, Research presentation
2007 Children's Hospital of Orange County Stem Cell Symposium, Research presentation

Editorial Positions

Ad Hoc reviewer for: Experimental Neurology, Current Stem Cell Research & Therapy, Neurobiology of Disease.

Grant Support Received

NIH/NINDS: R01 NS048959-01S1 Supplement Award, *Cell Replacement Therapy for Parkinson's Disease*.

Role: PI (12/01/04 – 3/31/2007).

NIH/NINDS: R21 NS048879-01, Human bone marrow-derived neural stem cell therapy,

Role: Co-Investigator (Yu, J., PI) (10/01/05 – 9/20/2007).

California Endowment: Career Development Award, Neural Stem Cells for Parkinson's Diseases.

Role: Co-Investigator (Black, K., PI) (01/01/05-11/31/07).

The Donna & Jesse Garber Foundation: The role of TLR signaling in dendritic cells for the purpose of dendritic cell vaccination therapy against glioblastoma.

Role: PI (01/01/08-12/31/08)

Peer-reviewed publications

1. Kinoshita Y, Jarell AD, Flaman JM, Foltz G, Schuster J, Sopher BL, **Irvin DK**, Kanning K, Kornblum HI, Nelson PS, Hieter P, Morrison RS. Pescadillo, a novel cell cycle regulatory protein abnormally expressed in malignant cells. 2001 **Journal of Biological Chemistry** 276(9):6656-65.
2. **Irvin DK**, Zurcher SD, Nguyen T, Weinmaster G, Kornblum HI. Expression patterns of Notch1, Notch2, and Notch3 suggest multiple functional roles for the Notch-DSL signaling system during brain development. 2001 **Journal of Comparative Neurology** 436(2):167-81.
3. Dhaka A, Costa RM, Hu H, **Irvin DK**, Patel A, Kornblum HI, Silva AJ, O'Dell TJ, Colicelli J. The RAS effector RIN1 modulates the formation of aversive memories. 2002 **Journal of Neuroscience** 23(3):748-57.
4. **Irvin DK**, Dhaka A, Hicks C, Weinmaster G, Kornblum HI. Extrinsic and intrinsic factors governing cell fate in cortical progenitor cultures. 2003 **Developmental Neuroscience**. 25(2-4):162-72.
5. Easterday MC, Dougherty JD, Jackson RL, Ou J, Nakano I, Paucar AA, Roobini B, Dianati M, **Irvin DK**, Weissman IL, Terskikh AV, Geschwind DH, Kornblum HI. Neural progenitor genes. Germinal zone expression and analysis of genetic overlap in stem cell populations. 2003 **Developmental Biology**. 264(2):309-22.
6. **Irvin DK**, Nakano I, Paucar AA, Kornblum HI. Patterns of Jagged1, Jagged2, Delta-like 1 and Delta-like 3 expression during late embryonic and postnatal brain development suggests multiple functional roles in progenitors and differentiated cells. 2004 **Journal of Neuroscience Research**. 75(3): 330-4
7. **Irvin DK**, Yuan X, Tunici P, Yu JS. Neural Stem Cells – A Promising Potential Therapy for Brain Tumors. 2006 **Current Stem Cell Research & Therapy**.
8. Tunici P, Irvin DK, Liu G, Yuan X, Zhaohui Z, Ng H, Yu J, Brain Tumor Stem Cells: New Targets for Clinical Treatments. *Neurosurgical Focus* 20(4) E27, 2006
9. Andersson E, **Irvin DK**, Ahlsjö J, Parmar M. Ngn2 and Nurr1 act in synergy to induce midbrain dopaminergic neurons from expanded neural stem and progenitor cells. **Experimental Cell Research**. December, 2006
10. Liu G, Yuan X, Zeng Z, Tunici P, Ng H, Abdulkadir IR, Lu L, **Irvin DK**, Black KL, Yu JS. Analysis of gene expression and chemoresistance of CD133+ cancer stem cells in glioblastoma. **Molecular Cancer**. 2006 Dec 2; 5:67.
11. Hu J, Yuan X, Ko MK, Yin D, Sacapano MR, Wang X, Konda BM, Espinoza A, Prosolovich K, Ong JM, **Irvin DK**, Black KL. Calcium-activated potassium channels mediated blood-brain tumor barrier opening in a rat metastatic brain tumor model. 2007 **Molecular Cancer**. 6(1): 22
12. *Ghods-Jourabchi A, ***Irvin DK**, Gentao Liu G, Abdulkadir I, Yuan X, Tunici P, Wachsmann-Hogi S, Konda B, Black K, Yu J, Spheres Isolated from 9L Gliosarcoma Rat Cell Line Possess Chemoresistant and Aggressive Cancer Stem-Like Cells. **Stem Cells**. July, 2007
13. Yin D, Wang X, Konda B, Ong J, Hu J, Sacapano M, Ko M, Espinoza A, **Irvin DK**, Shu Y, Black K. Increase in Brain Tumor Permeability in Glioma-bearing Rats with Nitric Oxide Donors. *Clinical Cancer Research, In Press, 2008*
14. **Irvin DK**, Thompson L, Kirik D, Björklund A In Vivo Gene Delivery to Endogenous Striatal Progenitors Generated by a 6-hydroxydopamine Lesion of the Nigrostriatal Dopamine Pathway. *In Press, Neurobiology of Disease*. 2008.
15. Wheeler C, Black K, Liu G, Wagenberg M, Zhang X, Pepkowitz S, Goldfinger D, Ng H, **Irvin DK**, Yu J. Vaccination with tumor lysate-pulsed dendritic cells elicits correlated immune and clinical response magnitudes in patients with glioblastoma multiforme. *Cancer Research, In Press, 2008*.

16. Black K, Yin D, Ong J, Hu J, Konda B, Wang X, Ko M, Bayan J, Sacapano M, Espinoza A, **Irvin DK**, Shu Y. Phosphodiesterase 5 Inhibitors Enhance Tumor Permeability and Efficacy of Chemotherapy in a Rat Brain Tumor Model. *In Submission, Journal of Pharmacology & Experimental Therapeutics.*
17. **Irvin DK**, Jounneau E, Duvall G, Zhai Y, Snow Z, Sarayba D, Seksenyan A, Black K, Wheeler C. Vaccination uniquely elicits stem-like phenotype, function, and increased dependence on hedgehog signaling in gliomas. *In Submission, Nature Medicine.*
18. Yin D, Konda B, Wang X, Hu J, Ko M, Bayan J, Sacapano M, Espinoza A, Ong J, **Irvin D**, Shu Y, Black K. Different Effects of KCa and KATP Agonists on Brain Tumor Permeability between Syngeneic and Allogeneic Rat Models. *In Submission, Brain Research.*