CEDARS-SINAI MEDICAL CENTER®
Maxine Dunitz Neurosurgical Institute

John S. Yu, MD

Attending Neurosurgeon, Maxine Dunitz Neurosurgical Institute
Co-Director, Comprehensive Brain Tumor Program

Cedars-Sinai Medical Center
Maxine Dunitz Neurosurgical Institute
8631 W. Third St., Suite 800 E, Los Angeles, CA 90048
Office (310) 423-7900
Fax (310) 423-7955

Education:

Stanford University, Stanford, California
Biology and French Literature, with Distinction 1985

Universite de Paris, Sorbonne, Paris, France
Biology and French Literature 1985

Harvard University, Cambridge, Massachusetts
Genetics 1990

Harvard Medical School, Cambridge, Massachusetts
Medical Degree 1990

Post-Graduate Training:

Beth Israel Hospital, Boston, Massachusetts
Internship, General Surgery 1990-1991

Massachusetts General Hospital, Boston, Massachusetts
Resident, Neurosurgery 1991-1997

Academic Appointments:

Instructor in Surgery
Department of Neurological Surgery
Harvard Medical School
Boston, Massachusetts 1997

Assistant Clinical Professor
Department of Neurological Surgery
UCI Medical School
Irvine, California 1997-2001

Administrative Appointments:

Assistant in Neurosurgery
Neurosurgical Service
Massachusetts General Hospital
Boston, Massachusetts 1997

Co-Director, Comprehensive Brain Tumor Program
Maxine Dunitz Neurosurgical Institute
Department of Surgery
Cedars-Sinai Medical Center
Los Angeles, California 1997-Present

Honors and Awards:

Bachelor of Science Degree with Distinction and Honors	1985
Phi Beta Kappa Award of Honor in the Biological Sciences	1985
Preuss Resident Award, Joint Section on Tumors, AANS, and CNS	1995
Resident Award, American Academy of Neurological Surgery	1996
Joint Section on Tumors Young Investigator Award, American Association of Neurological Surgeons and Congress of Neurological Surgeons	2000
National Brain Tumor Foundation Grant, Joint Section on Tumors	2001
Marquis Who's Who in Medicine	2002-Present
Marquis Who's Who in Science and Engineering	2003-Present
America's Top Doctors (Castle-Connolly Medical, Ltd.)	2005
America's Top Cancer Specialists (Castle-Connolly Medical, Ltd.)	2005
Mahaley Clinical Research Award, Congress of Neurological Surgeons	2005

Professional Societies and Memberships:

American Association for the Advancement of Science
American Association of Neurological Surgeons
Joint Section on Tumors: American Association of Neurological Surgeons and Congress of Neurological Surgeons
Society for Neuro-Oncology
International Society for Cellular Therapy

Certificates and Licensure:

Massachusetts State Medical License	1990-1998
Diplomat, National Board of Medical Examiners	1990
California State Medical License	1997-Present
Diplomat, American Board of Neurological Surgery	2001

University and Hospital Committees:

Faculty Academic Advisory Council, Cedars-Sinai Medical Center	2002-Present
Quality Assurance Facilitator in Neurosurgery, Cedars-Sinai Medical Center	2002-Present
Cancer Committee, Cedars-Sinai Medical Center	2000-Present
Institutional Review Board, Cedars-Sinai Medical Center	2003

National Service:

Brain Tumor Progress Review Group Roundtable Participant, NCI/NINDS	2000
PPG Site Visit for Parent Subcommittee D (Clinical Research Studies), National Cancer Institute	2003
Ad Hoc Reviewer for Research Programs Review Branch, National Cancer Institute	2003
Congressionally Directed Medical Research Programs Peer Review	2003
Program Project Cluster Review for Parent Subcommittee C and D, National Cancer Institute	2004

Editorial Boards:

Editor: *Current Stem Cell Research and Therapy*
Ad Hoc Reviewer: *Cancer Research, The Lancet, Clinical Cancer Research, Oncogene, Molecular Therapy, and Journal of Neuro-Oncology*

Patents Awarded:

A herpes simplex virus type 1 (HSV-1) derived vector for selectively inhibiting malignant cells (and methods for its use to treat cancers and express desired traits in malignant and non-malignant mammalian cells).

(Provisional Patents):

Intratumoral intracranial delivery of dendritic cells to brain tumors, with or without pretreatment of tumors with radiosurgery or thermal ablation (radiofrequency or microwave).

(A) In vitro differentiation of mammalian whole bone marrow into neural progenitor cells, glia, and neurons and (B) transplantation of autologous neural progenitor cells, neurons, or glia for the treatment of brain tumors, brain, spinal cord injuries, myelodysplasias, and neurodegenerative diseases.

Silencing interlukin-10 expression by small interference RNA (siRNA) to enhance Th1 response in human monocyte-derived dendritic cells.

A serum assay for malignant glioma using interleukin 13 receptor alpha.

Research Experience:

Department of Biology, Honors Research at Stanford University	1982-1984
Department of Molecular Biology, Genetech, Inc.	1984
Department of Immunology, Institut Pasteur (France)	1984-1985

Grant Support Awarded:

Fellow, Betty Lea Stone Fellowship, National Institute of Mental Health: Gene Transfer Stategies Based on a Chimeric EBV and Retrovirus Based Vector.	1986
Fellow, Neuroscience Fellowship, National Institute of Mental Health: The Genetic Etiology of Familial Multiple Sclerosis.	1988-1989
Fellow, Charles E. Culpeper Foundation Grant: GM-CSF Vaccination for Malignant Glioma.	1993-1995
Investigator, National Brain Tumor Foundation Award: Randomized Phase II Trial of Dendritic Cell Immunotherapy for Patients with Glioblastoma.	2001-2002
Principal Investigator, National Institutes of Health Research Grant: Active Immunotherapy for Glioblastoma.	2000-2005
Principal Investigator, National Institutes of Health Research Grant: A Novel Gene Therapy Approach for the Treatment of Glioblastoma.	2003-2005
Principal Investigator, National Institutes of Health Research Grant: Bone Marrow-Derived Neural Stem Cell Therapy for Glioma.	2004-2009

Publications in Scientific Journals:

1. Dautry F, Weil D, **Yu JS**, Dautry-Varsat A: Regulation of pim and myb mRNA accumulation by interleukin 2 and interleukin 3 in murine hematopoietic cell lines. J Biol Chem. 263:17615-7620, 1988.

2. **Yu JS**, Hayashi T, Seboun E, Sklar RM, Doolittle TH, Hauser SL: Fos RNA accumulation in multiple sclerosis white matter. J Neurol Sci. 103:209-215, 1991.

3. **Yu JS**, Moore MR, Kupsky WJ, Scott RM. Intracranial melanotic tumor of infancy: Two case reports. Surg Neurol. 37:123-129, 1992.

4. **Yu JS**, Pandey JP, Massacesi L, Lincoln R, Usuku K, Seboun E, Hauser SL: Segregation of immunoglobulin heavy chain constant region genes in multiple sclerosis sibling pairs. J Neuroimmunol. 42:113-116, 1993.

5. **Yu JS**, Wei MX, Chiocca EA, Martuza RL, Tepper RI. Treatment of glioma with genetically engineered interleukin-4 secreting cells. Cancer Res. 53:3125-3128, 1993.

6. Kramm CM, Sena-Esteves M, Barnett FH, Rainov NG, Schuback DE, **Yu JS**, Pechan PA, Paulus W, Chiocca EA, Breakefield XO: Gene therapy for brain tumors. Brain Pathol. 5:345-381, 1995.

7. **Yu JS**, Short MP, Schumacher J, Chapman PH, Harsh GR, IV: Intramedullary hemorrhage of spinal cord hemangiolastoma. Report of two cases. J Neurosurg. 81:639-40, 1996.

8. **Yu JS**, Sena-Esteves M, Paulus W, Breakefield XO, Reeves SA: Retroviral delivery and tetracycline-dependent expression of IL-1ß-converting enzyme (ICE) in a rat glioma model provides controlled induction of apoptotic death in tumor cells. Cancer Res. 56:5423-5427, 1996.

9. Kim DH, Gutin PH, Noble LJ, Nathan D, Yu JS, Nockels RP: Treatment with genetically engineered fibroblasts producing NGF or BDNF can accelerate recovery from traumatic spinal cord injury. Neuroreport. 7:2221-2225, 1996.

10. **Yu JS**, Burwick JA, Dranoff G, Breakefield XO: Gene therapy for metastatic brain tumors by vaccination with granulocyte-macrophage colony-stimulating factor-transduced tumor cells. Human Gene Therapy 8(9), 1997.

11. Herrlinger U, Kramm CM, Johnston KM, Louis DN, Finkelstein D, Reznikoff G, Dranoff G, Breakefield XO, **Yu JS**: Vaccination for experimental gliomas using granulocyte-macrophage colony-stimulating factor-transduced glioma cells. Cancer Gene Therapy 4:345-352, 1997.

12. **Yu JS**: Gene therapy for brain tumors. Drug News and Perspectives. 10(6), 10:528-534, 1997.

13. Zeltzer PM, **Yu JS**, Black KL: Immunotherapy of malignant brain tumors in children and adults: From theoretical principles to clinical application. Childs Nerv Syst. 15:514-528, 1999.

14. **Yu JS**, Yong WH, Wilson D, Black KL: Glioblastoma induction after radiosurgery for meningioma. Lancet 356:1576-1577, 2000.

15. Schievink WS, Thompson RC, Levine S, **Yu JS**: Superficial temporal artery to middle cerebral artery bypass and external carotid reconstruction for carotid restenosis following angioplasty and stent placement. Mayo Clin Proc. 75:1087-1090, 2000.

16. **Yu JS**, Wheeler CJ, Zeltzer PM, Finger D, Lee PK, Pins R, Yong WH, Thompson RC, Riedinger M, Zhang W, Black KL: Vaccination of malignant glioma patients with peptide-pulsed dendritic cells elicits systemic cytotoxicity and intracranial T-cell infiltration. Cancer Res. 61:842-847, 2001.
(Selected as cover illustration)

17. Samato K, Ehtesham M, Perng GC, Hashizume K, Wechsler SL, Nesburn AB, Black KL, **Yu JS**: A herpes simplex virus type 1 mutant deleted for gamma 34.5 and LAT kills glioma cells in vitro and is inhibited for in vivo reactivation. Cancer Gene Therapy 8(4):269-277, 2001.

18. Samato K, Ehtesham M, Perng GC, Hashizume K, Wechsler SL, Nesburn AB, Black KL, **Yu JS**: A herpes simplex virus type 1 mutant with gamma 34.5 and LAT deletions effectively oncolyses human U87 glioblastomas in nude mice. Neurosurgery 50(3):599-605, 2002.

19. Liu Y, Ehtesham M, Samoto K, Wheeler CJ, Thompson RC, Villarreal LP, Black KL, **Yu JS**. In situ adenoviral interleukin 12 gene transfer confers potent and long-lasting cytotoxic immunity in glioma. Cancer Gene Ther. 9:9-15, 2002.

20. Ehtesham M, Samoto K, Wheeler CJ, Thompson RC, Villarreal LP, Black KL, **Yu JS**: Treatment of intracranial glioma with *in situ* interferon-gamma and tumor necrosis factor alpha gene transfer. Cancer Gene Therapy 9(11):925-934, 2002.

21. Ehtesham M, Kabos P, Kabosova A, Neuman T, Black KL, **Yu JS**. The use of interleukin 12 secreting neural stem cells for the treatment of intracranial glioma. Cancer Research 62:5657-5663, 2002. (Selected as cover illustration)

22. Kabos P, Ehtesham M, Kabosova A, Black KL, **Yu JS**: Neural progenitors from adult bone marrow. Experimental Neurology 178(2):288-293, 2002. (Selected as cover illustration)

23. Ehtesham M, Kabos P, Gutierrez MAR, Chung NHC, Griffith TS, Black KL, **Yu JS**: Induction of glioblastoma apoptosis using neural stem cell mediated delivery of tumor necrosis factor-related apoptosis inducing ligand. Cancer Research 62(24):7170-7174, 2002.

24. Ehtesham M, Kabos P, Gutierrez MAR, Samoto K, Black KL, **Yu JS**: Intratumoral dendtritic cell vaccination elicits potent tumoricidal immunity against malignant gliolma. Journal of Immunotherapy 26:107-116, 2003.

25. Ehtesham M, Kabos P, Yong WH, Schievink WS, Black KL, **Yu JS**: Development of an intracranial ependymoma at the site of a pre-existing cavernous malformation. Surgical Neurology 60:80-2, 2003.

26. **Yu JS**, Lee PK, Ehtesham M, Samoto K, Black KL, Wheeler CJ: Intratumoral T-cell subsets and endothelial fas ligand expression in brain tumors. J Neurooncol. 64:55-61, 2003.

27. Liu G, Khong HT, Wheeler CJ, **Yu JS**, Black KL, Ying H: Molecular and functional analysis of tyrosine related protein (TRP)-2 as cytotoxic T lymphocytye target in malignant glioma. J Immunother. 26:301-12, 2003.

28. Kabos P, Ehtesham M, Black KL, **Yu JS**: Neural stem cells as delivery vehicles. Expert Opin Biol Ther. 3:759-70, 2003.

29. Wheeler CJ, Black KL, Liu G, Ying H, **Yu JS**, Zhang W, Lee PK: Thymic CD8+ T cell production strongly influences tumor antigen recognition and age-dependent glioma mortality. J Immunology. 171(9):4927-4933, 2003.

30. Ehtesham M, Kabos P, Black KL, **Yu JS**: Recent progress in immunotherapy for malignant glioma: Treatment strategies and results from clinical trials. Cancer Control 11(3):192-195, 2004.

31. Liu G, Ng H, Akasaki Y, Yuan X, Ehtesham M, Yin D, Black KL, **Yu JS**: Small interference RNA modulation of Interleukin 10 in human monocyte-derived dendritic cells enhances the Th1 response. Eur J Immunology. 34(6):1680-1687, 2004.

32. Ehtesham E, Kabos P, Chung NHC, Liu G, Akasaki Y, Black KL, **Yu JS**: Glioma tropic neural stem cells consist of astrocytic precursors and their migratory capacity is mediated by CXCR4. Neoplasia 6:287-293, 2004.

33. Kabos P, Matundan H, Zandian M, Bertolotto C, Robinson M, Davy BE, **Yu JS**, Krueger RC, Jr.: Neural Precursors express multiple chondroitin sulfate proteoglycans, including the lectican family. Biochem Biophys Res Commun. 318:955-63, 2004.

34. Liu G, **Yu JS**, Zeng G, Yin D, Xie D, Black KL, Ying H. AIM-2: A novel tumor antigen is expressed and presented by human glioma cells. J Immunotherapy. 27:220-226, 2004.

35. **Yu JS**, Liu G, Ying H, Yong WH, Black KL, Wheeler CJ: Vaccination with tumor lysate-pulsed dendritic cells elicits antigen specific cytotoxic T cells in patients with malignant glioma. Cancer Res. 64:4973-4979, 2004.

36. Liu G, Ying H, Zeng G, Wheeler CJ, Black KL, **Yu JS**: HER-2, gp100, and MAGE-1 are expressed in human glioblastoma and recognized by cytotoxic T cells. Cancer Res. 64:4980-4986, 2004.

37. Wheeler CJ, Das A, Liu G, **Yu JS**, Black KB: Clinical responsiveness of glioblastoma to chemotherapy after vaccination. Clin Cancer Res. 10(16):5316-5326, 2004.

38. Wheeler CJ, **Yu JS**, Black KL: Cellular immunity in the treatment of brain tumors. Clin Neurosurg. 51:132-139, 2004.

39. Akasaki C, Liu G, Chung NH, Ehtesham M, Black KL, **Yu JS**. Induction of a $CD4^+$ T regulatory type-1 response by cyclooxygenase-2 overexpressing glioma. J Immunology. 173(7):4352-4359, 2004.

40. Yuan X, Curtin J, Xiong Y, Liu G, Waschsmann-Hogiu S, Farkas DL, Black KL, **Yu JS**: Isolation of cancer stem cells from adult glioblastoma multiforme. Oncogene 23(58): 9392-9400, 2004.

41. Liu G, Akasaki Y, Khong HT, Wheeler CJ, Das A, Black KL, **Yu JS**: Cytotoxic T cell targeting of TRP-2 sensitizes human malignant glioma to chemotherapy. Oncogene 24(33):5226-5234, 2005.

42. Akasaki Y, Black KL, **Yu JS**: T cell immunity in patients with malignant glioma: Recent progress in dendritic cell-based immunotherapeutic approaches. Front Biosci. 10:2908-2921, 2005.

43. Akasaki Y, Black KL, **Yu JS**: Dendritic cell-based immunotherapy for malignant gliomas. Expert Reviews Neurotherapeutics 5(4):497-508, 2005.

44. **Yu JS**, Vilhauer J: Quality of life for patients with glioblastoma. Lancet Oncol. 6(12):913-914, 2005.

45. Akasaki Y, Liu G, Matundan HH, Ng H, Yuan X, Zeng Z, Black KL, **Yu JS**: A peroxisome proliferators-activated receptor-gamma (PPAR gamma) agonist, trogliazone, facilitates caspase-8 and caspase-9 activities by increasing the enzymatic activity of protein tyrosine phosphatase-1B on human glioma cells. J Biol Chem. Nov 30, 2005 (Epub. ahead of print).

46. Irvin DM, Yuan X, Zeng Z, Tunici P, **Yu JS**: Neural Stem Cells--A Promising Potential Therapy for Brain Tumors. Current Stem Cell Res & Ther., 1:79-84, 2006.

47. Yuan X, Hu J, Belladonna M, Black KL, **Yu JS**: IL-23 expressing bone marrow-derived neural stem-like cells exhibit antitumor activity against intracranial glioma. Cancer Res. (In press).

48. Tunici P, Liu G, Yuan X, Irvin DM, Zeng Z, Ng H, **Yu JS**: Brain tumor stem cells: New targets for clinical treatments? Neurosurgical Focus (In press).

49. Liu G, Black K, **Yu JS**: Sensitization of malignant glioma to chemotherapy through dendritic cell vaccination. Expert Review of Vaccines (In press).

Book Chapters and Invited Articles:

1. **Yu JS**, Harsh GR, IV, Breakefield XO: Basic concepts of gene therapy. Raffel C, Harsh GR, IV (eds): The Molecular Basis of Neurosurgical Disease Volume 8: Concepts in Neurosurgery. Williams and Wilkins, Maryland, 1996.

2. Ojemann RG and **Yu JS**: Anterior fossa tuberculum sella and olfactory groove meningiomas. Robertson JT, Coakham H (eds): Skull Base Surgery: Management, Complications, and Outcomes. Churchill Livingston, New York, 1998.

3. **Yu JS**, Carter BS, Harsh GR, IV: Gene therapy for metastases and carcinomatous meningitis. Maciunas RJ (ed): Advanced Techniques in Central Nervous System Metastases; Neurological Topics Series, American Association of Neurological Surgeons. Williams and Wilkins, Maryland, 1998.

4. **Yu JS**, Ehtesham M, Black KB: Immunotherapy for Malignant Gliomas. Black PM, Loeffler JS (eds): Cancer of the Nervous System, 2nd Edition. Lippincott, Pennsylvania, 2005.

5. **Yu JS**, Luptrawan A, Wallace RE, Hakimian B: Radiosurgery of intracranial lesions. Badie B (ed): Neurosurgical Operative Atlas. (In press) 2005.