

BIOGRAPHICAL SKETCH

Duplicate page and complete for each investigator associated with the proposal

NAME		POSITION TITLE	
Duncan, Ian D., BVMS, PhD		Professor	
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Glasgow University, Glasgow, Scotland	B.V.M.S.	1971	Veterinary Medicine
Glasgow University, Glasgow, Scotland	Ph.D.	1975	Neuropathology
McGill University, Montreal, Canada	Fellowship	1977-1981	Experimental Medicine

Research and Professional Experience

1975-1977	Post-doctoral fellow, Surgery Department, Glasgow University Veterinary School
1977-1980	Research Fellow of the Canadian Multiple Sclerosis Society working in the Department of Neurology, The Montreal General Hospital and McGill University, Montreal, Quebec, Canada
1979	Appointed Faculty Lecturer, Department of Neurology and Neurosurgery, McGill University, Montreal
1981	Appointed Scholar of the Medical Research Council of Canada
1982-1987	Visiting Associate Professor, then Associate Professor, Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin-Madison
1986	Elected member of the Royal College of Pathologists (MRCPATH)
1987	Runner-up for Weil Award for best experimental study at American Association of Neuropathologists, Seattle
1987-Present	Professor, Department of Medical Sciences, University of Wisconsin-Madison
1989	Ralston Purina Small Animal Research Award
1991	Smith Kline and Beecham Faculty Research Award, University of Wisconsin-Madison
1992	Michael Falconer Distinguished Service Award, State of Wisconsin Governor's Committee for People with Disabilities
1992	Elected Fellow of the Royal College of Veterinary Surgeons
1995-1999	Member, NIH Study Section Neurology B1
1996	Fellow of the Royal College of Pathologists, for meritorious contributions to the literature
2000	Pfizer Award for Research Excellence
2001-Present	Elected to Councilor, American Society for Neurochemistry

Selected Publications

1. Repair of myelin disease: strategies and progress in animal models. **Duncan ID**, Grever WE, and Zhang S-C. **Molecular Medicine Today**. 1997, 3, 554-561. Invited.
2. Apoptotic glial cell death and kinetics in the spinal cord of the myelin-deficient rat. Lipsitz DL and **Duncan ID**. **J. Neurosci. Res.** 1998, 51, 497-507.
3. Myelin mosaicism and brain plasticity in heterozygous females of a canine X-linked trait. Cuddon PA, Lipsitz DL, and **Duncan ID**. **Anns. Neurol.** 1998, 44, 771-779.
4. Oligodendrocytes are not inherently programmed to myelinate a specific size of axon. Fanarraga ML, Griffiths IR, Zhao M, and **Duncan ID**. **J. Comp. Neurol.** 1998, 399, 94-100.
5. The immune status of the myelin deficient rat and its immune responses to transplanted allogeneic glial cells. Li DW, **Duncan ID**. **J. Neuroimmunol.** 1998, 85, 202-211.
6. Generation of oligodendroglial progenitors from neural stem cells. Zhang S-C, Lundberg C, Lipsitz DL, and **Duncan ID**. **J. Neurocytol.** 1998, 27, 475-489.
7. Morphologic and morphometric studies of the dysmyelinating mutant, the Long Evans shaker rat. Kwiecien JM, O'Connor LT, Goetz BD, Delaney KH, Fletch AL, and **Duncan ID**. **J. Neurocytol.** 1998, 27, 581-591.
8. Self-renewing canine oligodendroglial progenitor expanded as oligospheres. Zhang S-C, Lipsitz DL, and **Duncan ID**. **J. Neurosci. Res.** 1998, 54, 181-190.

9. Insertion of a retrotransposon into the Mbp disrupts mRNA splicing and myelination in a new mutant rat. O'Connor LT, Goetz BD, Kwiecien JM, Delaney KH, Fletch AL, and **Duncan ID**. **J. Neurosci.** 1999, 19, 3404-3413.
10. Adult brain retains the potential to generate oligodendroglial progenitors with extensive myelination capacity. Zhang S-C, Ge B, and **Duncan ID**. **Proc. Nat. Acad. of Sci.** 1999, 96, 4089-4094.
11. Embryonic stem cell-derived glial precursors: a source of myelinating transplants. Brüstle O, Jones KN, Learish RD, Karram K, Choudhary K, Wiestler OD, **Duncan ID**, and McKay RDG. **Science** 1999, 285, 754-756.
12. Intraventricular transplantation of oligodendrocyte progenitors into a fetal myelin mutant results in widespread formation of myelin. Learish RD, Brüstle O, Zhang S-C, and **Duncan ID**. **Anns Neurol.** 1999, 46, 716-722.
13. Microtubule alterations in cultured *taiep* rat oligodendrocytes lead to deficits in myelin membrane formation. Song J, O'Connor LT, Yu W, Bass PW, and **Duncan ID**. **J. Neurocytol.** 1999, 28, 671-683.
14. Neurotransplantation of magnetically labeled oligodendrocyte progenitors: MR tracking of cell migration and myelination. Bulte JWM, Zhang S-C, van Gelderen P, Herynek V, Jordan EK, **Duncan ID**, and Frank JA. **Proc. Natl. Acad. Sci.** 1999, 96, 15256-15261.
15. Tracing human oligodendroglial development *in vitro*. Zhang S-C, Ge B, and **Duncan ID**. **J. Neurosci. Res.** 2000, 59, 421-429.
16. Intracellular distribution of myelin protein gene products is altered in oligodendrocytes of the *taiep* rat. O'Connor LT, Goetz BD, Couve E, Song J, and **Duncan ID**. **Mol. Cellular Neurosci.** 2000, 16, 396-407.
17. Enhanced proliferation and directed migration of oligodendroglial progenitors co-grafted with growth factor-secreting cells. Milward EA, Zhang S-C, Zhao M, Lundberg C, Ge B, Goetz BD, **Duncan ID**. **Glia.** 2000, 32, 264-270.
18. Selective myelin defects in the anterior medullary velum of the *taiep* mutant rat. Song J, Goetz BD, Kirvell SL, Butt AM, and **Duncan ID**. **Glia.** 2001, 33, 1-11.
19. Reactive microglia in dysmyelination and demyelination. Zhang S-C, Goetz BD, Carré JL, and **Duncan ID**. **Glia.** 2001, 34 (2) 101-109.
20. Cytoskeletal reorganization during the formation of oligodendrocyte processes and branches. Song J, Goetz BD, Baas PW, and **Duncan ID**. **Mol. Cellular Neurosci.** 2001 17 (4) 624-636.
21. Embryonic derived glial restricted precursor cells (GRP cells) can differentiate into astrocytes and oligodendrocytes *in vivo*. Herrera J, Yang H, Zhang S-C, Proschel C, Tresco P, **Duncan ID**, Luskin M, Mayer-Proschel M. **Exp Neurol.** 2001 171(1):11-21.
22. *in vitro* differentiation and transplantation of human ES cell-derived neural precursors. Zhang S-C, Wernig M, **Duncan ID**, Brüstle O, Thomson JA. **Nature Biotechnology.** 2001 19(12):1129-1133.
23. Magnetodendrimers allow endosomal magnetic labeling and *in vivo* tracking of stem cells. Bulte, JWM, Douglas T, Witwer B, Zhang S-C, Strable E, Lewis BK, Zywicke H, Miller B, van Gelderen P, Moskowitz BM, **Duncan ID**, Frank JA. **Nature Biotechnology.** 2001 19(12):1141-1147.
24. Inhibition of autoimmune encephalitis by a tetracycline. Popovic N, Goetz BD, Schubart A, Linington CR, and **Duncan ID**. **Anns. Neurology.** 2002 51(2):215-223.
25. *in vivo* magnetic resonance tracking of magnetically labeled cells after transplantation. Bulte JWM, **Duncan ID**, Frank JA. **J. Cer. Blood Flow & Metab.** 2002 22, 899-907.
26. Suppression of activated microglia promotes survival and function of transplanted oligodendroglial progenitors. Zhang SC, Goetz BD, **Duncan ID**. **Glia.** 2003, 41, 191-198.
27. RNA transport in oligodendrocytes from the *taiep* mutant rat. Song J, Carson JH, Barbarese E, Li F-Y, **Duncan ID**. **Mol. Cell. Neurosci.** 2003 24:926-938.
28. Oligodendroglial modulation of fast axonal transport in a mouse model of hereditary spastic paraplegia. Edgar JM, McLaughlin M, Yool D, Zhang S-C, Fowler JH, Montague P, Barrie JA, McCulloch MC, **Duncan ID**, Garbern J, Nave KA, Griffiths IR. **J. Cell. Biol.** 2004, 166, 121-131.
29. Minocycline attenuates nitric oxide mediated neuronal and axonal destruction *in vitro*. Wilkins, A, Nikodemova N, Compston A, **Duncan ID**. **Neuron Glia Biology** 2004, 1, 297-305.
29. His36Pro point-mutated proteolipid protein retained in the endoplasmic reticulum of oligodendrocytes in the *shaking pup*. Song J, Goetz BD, **Duncan ID**. **Glia,** 2006 53(3), 257-265.
30. Minocycline down-regulates MHC II expression in microglia through inhibition of IRF-1 and PKC α/β . Nikodemova M., Watters J, Jackson S., Yang S., **Duncan ID**. **J. Biol. Chem,** 2007, 282 (20), 15208-15216.
31. Myelin, diffusion time and apparent diffusion anisotropy in the CNS: Time dependent q-space diffusion spectroscopy and imaging of myelin deficient rat spinal cords. Biton IE, **Duncan ID**, Cohen Y. **Magnetic Resonance in Medicine,** (2007 In Press).
32. Replacing cells in multiple sclerosis. **Duncan ID**. **J. Neurol Sci.**, (2007 In Press).