

# Stanford

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## Linda C. Cork, DVM, PhD

Professor of Comparative Medicine, Emerita

### CONTACT INFORMATION

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### Bio

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#### ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Comparative Medicine

#### ADMINISTRATIVE APPOINTMENTS

- Professor & Chair, Stanford University School of Medicine - Comparative Medicine, (1994-1009)

#### HONORS AND AWARDS

- Diplomate, American College of Veterinary Pathologists (1975)
- Distinguished Member, American College of Veterinary Pathologists (2002)
- President, American College of Veterinary Pathologists (1996)
- Councilor, American College of Veterinary Pathologists (1989-1992)
- Active Member, Institute of Medicine (1988)
- Distinguished Alumni, Texas A&M University (1991)
- Fellow, American Association for the Advancement of Science (2005)

#### PROFESSIONAL EDUCATION

- D.V.M., Texas A & M University , Veterinary Medicine (1970)
- Ph.D., Washington State University , Experimental Pathology (1974)

#### LINKS

- Department of Comparative Medicine: <http://med.stanford.edu/compmed>

### Research & Scholarship

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#### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Animal models offer a unique opportunity to study the pathogenesis of neurologic diseases afflicting both humans and animals. For example, non-human primates develop many of the same cognitive deficits and neuropathologic changes as occur in humans. Inherited diseases in dogs reliably replicate many hereditary diseases

in humans. We can learn much by studying the temporal and spatial evolution of the lesions in the nervous system in spontaneously occurring or induced diseases in animals. The rapid development of the dog genome map brings an important benefit to the study of inherited canine diseases. Comparative gene mapping among human, murine, and canine genomes have the potential to rapidly identify mutations that underlie various disease syndromes. My research focuses on the identification and characterization of animal models of human diseases. These animal models may occur in non-human primates, dogs, cats, goats, mice in which mutations have been induced, or in other less common laboratory species such as bears. By using these diverse species we can ask how the nervous system lesions are related to functional deficits? What is the biological significance of the lesions? How do the lesions begin? How do they evolve? What is the function of the cells early in disease when therapeutic intervention would be most advantageous? By evaluating the pathology and physiologic function or behavior in animals, we can begin to design rational interventional strategies to prevent, treat, or to delay the onset of neurodegenerative diseases.

## Teaching

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### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

## Publications

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### PUBLICATIONS

- **The non-human primate striatum undergoes marked prolonged remodeling during postnatal development** *FRONTIERS IN CELLULAR NEUROSCIENCE*  
Martin, L. J., Cork, L. C.  
2014; 8
- **The non-human primate striatum undergoes marked prolonged remodeling during postnatal development.** *Frontiers in cellular neuroscience*  
Martin, L. J., Cork, L. C.  
2014; 8: 294-?
- **Veterinarians and the Institute of Medicine** *VETERINARY PATHOLOGY*  
Cork, L. C.  
2013; 50 (6): 946-47
- **Allelic variants of the canine heavy neurofilament (NFH) subunit and extensive phosphorylation in dogs with motor neuron disease** *JOURNAL OF COMPARATIVE PATHOLOGY*  
GREEN, S. L., Westendorf, J. M., Jaffe, H., Pant, H. C., CORK, L. C., Ostrander, E. A., Vignaux, F., Ferrell, J. E.  
2005; 132 (1): 33-50
- **Reduced endplate currents underlie motor unit dysfunction in canine motor neuron disease** *JOURNAL OF NEUROPHYSIOLOGY*  
Rich, M. M., Waldeck, R. F., CORK, L. C., Balice-Gordon, R. J., Fyffe, R. E., Wang, X. Y., Cope, T. C., Pinter, M. J.  
2002; 88 (6): 3293-3304
- **Structure, chromosomal location, and analysis of the canine Cu/Zn superoxide dismutase (SOD1) gene** *JOURNAL OF HEREDITY*  
Green, S. L., Tolwani, R. J., Varma, S., Quignon, P., Galibert, F., CORK, L. C.  
2002; 93 (2): 119-124
- **Per diem rates and true costs: Apples and oranges** *COMPARATIVE MEDICINE*  
CORK, L. C.  
2002; 52 (1): 10-11
- **2000 Report of the AVMA Panel on Euthanasia** *JOURNAL OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION*  
Beaver, B. V., Reed, W., Leary, S., McKiernan, B., Bain, F., Schultz, R., Bennett, B. T., Pascoe, P., Shull, E., CORK, L. C., Francis-Floyd, R., Amass, K. D., Johnson, et al  
2001; 218 (5): 669-696
- **Canine motor neuron disease: Clinicopathologic features and selected indicators of oxidative stress** *17th Annual Meeting of the American-College-of-Veterinary-Internal-Medicine*  
GREEN, S. L., Bouley, D. M., Pinter, M. J., CORK, L. C., Vatassery, G. T.  
WILEY-BLACKWELL PUBLISHING, INC.2001: 112-19

- **The Neurobiology of Aging in Nonhuman Primates** *In: Alzheimer's Disease, 2nd edition*  
Cork LC, Walker LC  
1999; 233-243
- **Alterations in cyclin-dependent protein kinase 5 (CDK5) protein levels, activity and immunocytochemistry in canine motor neuron disease** *JOURNAL OF NEUROPATHOLOGY AND EXPERIMENTAL NEUROLOGY*  
GREEN, S. L., Vulliet, P. R., Pinter, M. J., CORK, L. C.  
1998; 57 (11): 1070-1077
- **Hereditary canine spinal muscular atrophy is phenotypically similar but molecularly distinct from human spinal muscular atrophy** *JOURNAL OF HEREDITY*  
Blazej, R. G., Mellersh, C. S., CORK, L. C., Ostrander, E. A.  
1998; 89 (6): 531-537
- **Life-long overexpression of S100 beta in Down's syndrome: Implications for Alzheimer pathogenesis** *NEUROBIOLOGY OF AGING*  
Griffin, W. S., Sheng, J. G., MCKENZIE, J. E., Royston, M. C., Gentleman, S. M., Brumback, R. A., CORK, L. C., Del Bigio, M. R., Roberts, G. W., Mrak, R. E.  
1998; 19 (5): 401-405
- **Molecular analysis of the third component of canine complement (C3) and identification of the mutation responsible for hereditary canine C3 deficiency** *JOURNAL OF IMMUNOLOGY*  
Ameratunga, R., Winkelstein, J. A., Brody, L., Binns, M., CORK, L. C., Colombani, P., Valle, D.  
1998; 160 (6): 2824-2830
- **Hereditary canine spinal muscular atrophy: genetics, neurophysiology, and pathology** *7th International Symposium on Amyotrophic Lateral Sclerosis/Motor Neuron Disease*  
CORK, L. C., GREEN, S. L., Pinter, M. J.  
ELSEVIER SCIENCE BV.1997: S74-S74
- **Effects of 4-aminopyridine on muscle and motor unit force in canine motor neuron disease** *JOURNAL OF NEUROSCIENCE*  
Pinter, M. J., Waldeck, R. F., Cope, T. C., CORK, L. C.  
1997; 17 (11): 4500-4507
- **The costs of animal research: Origins and options** *SCIENCE*  
CORK, L. C., Clarkson, T. B., Jacoby, R. O., Gaertner, D. J., LEARY, S. L., LINN, J. M., Pakes, S. P., Ringler, D. H., Strandberg, J. D., Swindle, M. M.  
1997; 276 (5313): 758-759
- **Canine genetic linkage study using heterologous DNA probes** *JOURNAL OF HEREDITY*  
Sack, G. H., Taylor, E. W., Meyers, D. A., Dragwa, C. R., CORK, L. C.  
1996; 87 (1): 15-20
- **CLEFT-PALATE WITH AUTOSOMAL RECESSIVE TRANSMISSION IN BRITTANY SPANIELS** *CLEFT PALATE-CRANIOFACIAL JOURNAL*  
Richtsmeier, J. T., Sack, G. H., Grausz, H. M., CORK, L. C.  
1994; 31 (5): 364-371