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Research Briefs and Recent Publications

“We injected one malignant lymph node with the NBD peptide and followed up with chemotherapy. One week after a single dose of peptide, the lymph node we injected was a lot smaller than the other cancerous lymph nodes,” Dr. Mason said. “This suggests that the peptide either acts alone or synergistically with rescue chemotherapy to kill the tumor cells.”

Testing the peptide in a live animal model, rather than in tumor cells taken from cell lines in a Petri dish, accelerates the prospects of this research leading to clinical treatments for both dogs and humans.

“The identification of a comparable molecular pathogenesis of ABC-DLBCL between dogs and humans, coupled with our ability to investigate the therapeutic benefit of targeting this aberrant NF-kappaB pathway in a clinically relevant, large animal model is a great example of the ‘bench to bedside’ paradigm of translational medicine,” Dr. Mason said. “It’s been over 10 years since this pathway was recognized in ABC-DLBCL in humans; however, this is the first indication that specific inhibition of this pathway may have a beneficial effect in human and canine patients with this disease.”

Dr. Mason and her colleagues are now testing whether the peptide is systemically effective when administered intravenously. Demonstration of safety and therapeutic success in this trial could not only pave the way to a novel approach to the treatment of this disease in pet dogs but also could lead to clinical trials in humans with this type of lymphoma.

The research was supported by the National Institutes of Health, American Cancer Society, Mari Lowe Center for Comparative Oncology and American Kennel Club’s Canine Health Foundation.

RESEARCH BRIEFS

Foundation Fighting Blindness has awarded Penn Vet Professor of Medical Genetics and Ophthalmology **Gustavo D. Aguirre, VMD, PhD** with a \$230,000 grant to continue the Penn Large Animal Model Translational and Research Facility.

David Artis, PhD, associate professor, has received two National Institutes of Health grants (Regulation of protective immunity following enteric viral infection and Regulation and function of innate lymphoid cells).

The National Institutes of Health has granted **Peter J. Felsburg, VMD, PhD** a \$626,059 grant to study gene therapy for canine X-lined SCID.

Dr. Ronald N. Harty, associate professor of microbiology, has been awarded a two-year (July 2011 - June 2013) Developmental Research Grant from the NIH Middle Atlantic Regional Center of Excellence (MARCE) for Biodefense and Emerging Infectious Disease Research. His application was entitled “Novel FLIM-Based Optical Measurements of Filovirus Budding Mechanisms” and was one of four selected for funding

out of a total of 40 applications. Dr. Bruce Freedman, associate professor of pathobiology is a co-primary investigator.

Christopher Hunter, PhD, chairman of the Department of Pathobiology and Tajie Harris, PhD, postdoctoral fellow at Penn Vet, were awarded a National Institutes of Health grant to study the role of chemokines in the T cell response to ocular toxoplasmosis.

Diane J. Gaertner, DVM, professor in the Department of Pathobiology, has been awarded a five-year grant from the National Institutes of Health/National Center for Research Resources for “Translational Research and Laboratory Animal Medicine Education for Veterinarians.”

The United Mitochondrial Disease Foundation (UMDF) has awarded Penn Vet Assistant **Professor Brett A. Kaufman** a \$120,000 grant to study the role that mtDNA copy number control plays in the development of disease. Dr. Kaufman’s grant was also selected for the UMDF Chairman’s Award for the top grant this year.

Dr. Charles Vite, assistant professor, received \$100,000 in funding from the National Niemann-Pick Disease Foundation.

RECENT PUBLICATIONS

Lee Y-H. and Saint-Jeannet J-P. (2011). Cardiac neural crest is dispensable for outflow tract septation in *Xenopus* (2011) *Development* 138: 2025-2034. (Also featured in *Science Daily*, April 23, 2011.)

Okumura, A. and Harty, R.N. Rabies virus assembly and budding. In: *Research Advances in Rabies* (Alan Jackson, Ed.), *Advances in Virus Research*, Elsevier, Vol. 79, pgs 23-32, 2011.

Kuznetsova, T., Zangerl, B., Goldstein, O., Acland, G.M., Aguirre, G.D. Structural organization and expression pattern of the canine RPGRIP1 isoforms in retinal tissue *Invest Ophthalmol Vis Sci* 52:2989-2998, 2011.

Eroshin, V.E., Reiter, A.M., Rosenthal, K., Fordham, M., Latney, L., Brown, S., Lewis, J.R. Oral disease in a population of rescued ferrets: clinical examination findings. *J Vet Dent*, 2011, 28:8-15.

Mark C. Siracusa, Steven A. Saenz, David A. Hill, Brian S. Kim, Mark B. Headley, Travis A. Doering, E. John Wherry, Heidi K. Jessup, Lori A. Siegel, Taku Kambayashi, Emily C. Dudek, Masato Kubo, Antonella Cianferoni, Jonathan M. Spergel, Steven F. Ziegler, Michael R. Comeau and David Artis (2011). “TSLP promotes interleukin-3-independent basophil haematopoiesis and type 2 inflammation.” *Nature*.

Yuliang Liu, Sasha Stone, and Ronald N. Harty, (2011), “Characterization of Filovirus Protein-Protein Interactions in Mammalian Cells Using Bimolecular Complementation,” *Journal of Infectious Diseases*, 204(6) (online August 16).