

Curriculum Vitae

Name: *Awadh Amir Binhazim, D.V.M., M.S., Ph.D.*

Title and Affiliation:

a. **Academic appointment:**

Associate Professor of Pathology
Department of Pathology
Meharry Medical College
School of Medicine
Nashville, Tennessee

b. **Administrative appointment:**

Office of Sponsored Research
Director, Laboratory Animal Research Facility
Meharry Medical College
Nashville, Tennessee

3. **Consultant appointment:**

Consultant
Pathology and Laboratory Services
Department of Veterans Affairs
Alvin C. York Medical Center
Murfreesboro, Tennessee

Consultant
Pluris Research, Inc.
PO Box 681967
Franklin TN 37068

Residency: Permanent Resident in the USA

Home Address: 7052 Still Spring Hollow
Nashville, TN 37221

Phone/Fax: (615) 673-2590

Office Address: Meharry Medical College
1005 D.B. Todd Blvd
Nashville, TN 37208, USA

Phone: (615) 327-6070

Fax: (615) 327-6838

E-mail: abinhazim@mmc.edu

Education:

Ph.D.	1992	Comparative Pathology	University of Georgia, Georgia
M.S.	1987	Pathology and Microbiology	University of Nairobi, Kenya
D.V.M.	1983	Veterinary Medicine	King Faisal University, Saudi Arabia

Postgraduate Training:

05/17/92 - 06/17/92	Special training - SIV Laboratory, Dept. of Microbiology Tulane Regional Primate Research Center, Tulane University Covington, Louisiana, USA. Sponsor: Dr. M. Murphy-Corb
01/84 - 08/84	Special training - US Army Medical Research Unit Walter Reed Army Institute of Research Nairobi, Kenya Sponsor: US Army Medical Research Unit

Career and research interests:

- Experimental Pathology and Research
- The pathogenesis of visceral and cutaneous leishmaniasis, and tropical protozoal diseases.
- Investigative diagnostic histopathology of spontaneous diseases
- The pathology and pathogenesis of AIDS and other retroviruses
- Animal models of human diseases and associated pathology
- Toxicologic Pathology

Academic and Professional Appointments:

12/15/97 to present

Associate Professor of Pathology	Meharry Medical College, Department of Pathology. Nashville, Tennessee.
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12/01/93 - 12/30/97

Assistant Professor and Chief, Section of Comparative Pathology	The University of Texas M.D. Anderson Cancer Center Science Park Campus, Bastrop, Texas, Tenure Track position
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09/01/93 - 12/30/97

Adjunct Assistant Professor	The University of Texas, College of Pharmacy Department of Pharmacology, Austin Campus, Austin, Texas
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04/01/92 - 4/01/93

Research Associate	The University of Texas M.D. Anderson Cancer Center Department of Carcinogenesis, Smithville, Texas
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03/90 - 02/91

Department Head Department of Pathology, Institute of Primate Research
Nairobi, Kenya

02/91 - 03/92

Resident Pathologist Department of Pathology,
Ph.D. candidate University of Georgia, Georgia, USA

09/87 - 03/90

Ph.D. Graduate student Department of Pathology
University of Georgia, Georgia, USA

10/84 - 09/87

Resident Pathologist Department of Pathology, Institute of Primate Research
Nairobi, Kenya

Administrative Appointments:

Director, Laboratory Animal Research Facility, Meharry Medical College, Nashville, Tennessee,
December 1997 to present.

Chief, Section of Comparative Pathology, The University of Texas, M. D. Anderson Cancer Center.
Science Park Campus, November 1993 to December 1997

Committee Memberships:

National and international:

- National Institute of Health, NCCR, Scientific and Technical Review Board for Biomedical and Behavioral Research Facilities, Bethesda, Maryland, USA
- Research and Development Committee, Department of Veterans Affairs, Alvin C. York VA Medical Center, Mufreesboro, TN, USA
- Leishmaniasis Program Committee, Ministry of Health, Government of Kenya

Institutional:

- Research Advisory Committee, Meharry Medical College, Nashville, TN, USA.
- RCMI Internal Advisory Committee, Meharry Medical College, Nashville, TN, USA.
- Institutional Animal Care and Use Committee

Honors and Awards:

Awarded scholarship by "German Academic Exchange Service", Bonn, West Germany, October 1983
(to pursue Master's of Science degree at University of Nairobi, Kenya)

Awarded scholarship by World Health Organization (WHO), Geneva, Switzerland
(to pursue Ph.D. in Pathology at The University of Georgia, Georgia, USA)

Professional Society Memberships:

👍 United States and Canadian Academy of Pathology

Bibliography:

a. Published, accepted, and submitted articles in refereed journals:

1. Githure, J.I., Reid, G.D., **Binhazim, A.A.**, Anjili, C.O., Shatry, A.M., and Hendricks, L.D. *Leishmania major*: The suitability of East African nonhuman primates as animal models for cutaneous leishmaniasis. *Experimental Parasitology* 64:438-447, 1987
2. **Binhazim, A.A.**, Githure, J., Muchemi, G., and Reid, G.D. The isolation of *Leishmania major* from a naturally infected vervet monkey (*Cercopithecus aethiops*) caught in Kiambu district, Kenya. *Journal of Parasitology* 73:1278-1279, 1987
3. **Binhazim, A.A.**, Tarara, R.P. and Suleman, M.A. Spontaneous external endometriosis in a De Brazza's monkey. *Journal of Comparative Pathology* 101:471-474, 1989.
4. **Binhazim, A.A.**, Chapman, W.L., and Isaac, W. Multiple spontaneous lesions in an aged spider monkey. *Laboratory Animal Science* 39:355-357, 1989.
5. Otto, C.M., Mahaffey, M., Jacobs, C., and **Binhazim, A.A.** Cor triatrium dexter with Budd-Chiari syndrome and a review of ascites in young dogs. *Journal of Small Animal Practice* 31:385-389, 1990.
6. **Binhazim, A.A.**, Chapman, W.L., Latimer, K.S., Styles, M., and Comer, K. Canine leishmaniasis in two Labrador retrievers. *Journal of Veterinary Diagnostic Investigation* 4:299-305, 1992.
7. **Binhazim, A.A.**, Harmon, B.G., Roberson, E.L., and Boener, M. Hydatid disease in a horse. *JAVMA* 200:958-960, 1992.
8. **Binhazim, A.A.**, Shin, S.S., Chapman, W.L., and Olobo, J. Comparative susceptibility of the African green monkey (*Cercopithecus aethiops*) to experimental infection with *Leishmania leishmania infantum* and *Leishmania leishmania donovani*. *Laboratory Animal Science* 43:37-47, 1993.
9. **Binhazim, A.A.**, Chapman, W.L., Shin, S.S., and Hanson, W.L. Experimental infection of hamsters and dogs with *Leishmania leishmania infantum* of canine origin. *Amer Journal of Vet Research* 54:113-121, 1993.
10. **Binhazim, A.A.**, and Buchl, S.J., Hydranencephaly in two rhesus monkeys (*Macaca mulatta*). *Journal of Medical Primatology* 23:312-313, 1994.
11. **Binhazim, A.A.**, Coghlan, L.G., and Walker, C. Hemangiosarcoma in the tail of a long-evans rat bearing the Eker mutation. *Laboratory Animal Science* 44:191-194, 1994.

12. **Binhazim, A.A.**, Alford, P., and Miller, M. Ventricular Septal Defect in an Infant Chimpanzee (*Pan troglodytes*). *Journal of Medical Primatology* 23:362-364, 1994.
13. Alford, P.L., Lee, R. L., **Binhazim, A. A.**, Hubbard, G. B., and Matherne, C. Naturally acquired leprosy in two wild- born chimpanzees. *Laboratory Animal Science* 46:341-346, 1996.
14. **Binhazim, A. A.**, Rizvi, T., Coghlan, L. G., Schmidt, R., Lew, K., and Wong, P. K. Y. Rhesus thymic/liver xenografts in severe combined immunodeficient mice: Immunologic reconstitution and intrathymic infection with simian immunodeficiency virus. *Laboratory Investigation* 75:339-348, 1996.
15. **Binhazim, A.A.**, Lee, D.R., Bernacky, B.J., and Rizvi, T.A. Spontaneous anaplastic large cell lymphoma in a chimp: A clinicopathological and immunohistochemical study. *Journal of Medical Primatology* 26:260-266, 1997.
16. Wrona T.J., Johnston, D., **Binhazim, A.A.**, and Dudley, J.P. Mutational and functional analysis of the C-terminal region of the C3H MMTV. *Journal of Virology*. 72:4746-4755, 1996.
17. Hassenbusch, S., Gradert, T, Satterfield, W., **Binhazim, A.A.**, and Payne, R. Preclinical toxicity study of intrathecal administration of the pain-relievers dextrophan, dextromethorphan and memantine in the sheep model. *Neuromodulation*. 4:401-415, 1999.
18. Hubbard, G.B., Lee, D. R., Steele, K. E. Lee, S., **Binhazim, A. A.**, and Brasky, K. M., Spontaneous Amyloidosis in Twelve Chimpanzees, *Pan troglodytes*. *Journal of Medical Primatology*. *In press*, 2001

c. **Published and accepted book chapters:**

1. Shatry, A.M., Anjili, C.O., Mullama, P., **Binhazim, A.A.**, Reid, G., Hendricks, L.D., and Else, J.G. Infectivity of *Leishmania donovani* amastigotes and promastigotes for East African vervet monkeys. *In: S.N. Kinoti, D.K., Koech, and P.M. Tukei (eds.), Advances in the Diagnosis, Treatment, and Prevention of Immunizable Diseases in Africa*, pp. 253-257. Nairobi, Kenya: Africa Book Service, Ltd., 1987.

d. **Manuals, teaching aids, and other publications:**

1. Binhazim, A.A. Retroviruses of primates, mini-symposium, Texas A&M University, College Station, Texas, USA, November 11 1994.
2. Binhazim, A.A. The role of cytokines in diseases: A self-tutorial program. Written and integrated in the International Pathology Slide Bank, Department of Pathology, University of Georgia, Athens, GA, 1991.
3. Binhazim, A.A., Farah, I.O., Njamunge, G., and Wanja, M. Atypical lymphocytes in the African green monkey. *In: Proceedings of the First African Anglophone Conference on Medical Laboratory Technology*, Nairobi, Kenya, November, 1990.

e. **Abstracts:**

Binhazim, A.A., Coghlan, L.G., and Walker, C. Spontaneous Hemangiosarcoma in the Tail of a Long-Evans Rat Bearing the Eker Mutation. American Association for Laboratory Animal Science 44th Annual Meeting, Nashville, Tennessee, November 14-18, Abstract No. P14. 1993.

Binhazim, A.A., Shatry, A., Else, J.G. Visceral leishmaniasis in the Sykes (*C. mitis*) and vervet (*C. aethiops*) monkeys: Hematology and pathology. *In*: Proceedings of the IX International Congress of Infectious and Parasitic Diseases, pp. 263, Munich, West Germany, July 20-26, 1986.

Grant and Contract Support:

National Institute of Health – NCCR. Research Facility Improvement Grant G20 RR15272-01
Developing and Improving Institutional Research Resources
9/30/00 – 9/21/01 – Total Budget - \$337,280
P.I. Awadh A. Binhazim

National Institute of Health – NCCR. Research Facility Improvement Grant G20 RR14226-01
Developing and Improving Institutional Animal Resources
9/01/99 – 8/31/00 – Total Budget - \$149,073
P.I. Awadh A. Binhazim

National Cancer Institute, Cancer Center Support CORE Grant CA-16672
Vet. Resources Support Facility Shared Resource
7/01/78 - 6/30/97 - Current Annual Budget - \$149,765
P.I. - M. Keeling
Effort: 15% - Pathologist - Awadh A. Binhazim

National Institute of Health - NIAID Contract No. NO1-AI-05060
Housing, Maintenance and Testing of AIDS-Infected Chimpanzees
12/27/95 - 12/26/2000 - Total budget - \$2,142,315
P.I. - W. Satterfield
Effort: 5% - Pathologist - Awadh A. Binhazim

National Institute of Health Grant 5 U42 RR 05080-07 - SPF Rhesus Breeding and Research Program
09/30/93 - 09/29/98 - Total Budget - \$3,052,164
P.I. - M. Keeling
Effort: 5% - Pathologist - Awadh A. Binhazim

National Institute of Health Contract No. 263-94-C0028 - Chimp Reserve for AIDS Research.
09/27/94 - 09/30/99 - Total budget - \$2,113,153
P.I. - W. Satterfield

Effort: 5% - Pathologist - Awadh A. Binhazim

Vet. Medical Station, The University of Georgia, Georgia
Studies on the pathogenesis and chemotherapy of canine leishmaniasis.
1988-1989 - \$4000
P.I. - Awadh A. Binhazim

World Health Organization Special Program for Research & Training in Tropical Diseases
Studies on the pathogenesis of human and canine leishmaniasis .
1990 - 1991- \$20,000
P.I. Awadh A. Binhazim

World Health Organization Special Program for Research & Training in Tropical Diseases
East African nonhuman primates as models of cutaneous leishmaniasis
1986-1987 - \$30,000
P. I. - J. Githure
Co-Investigator - Awadh A. Binhazim

German Academic Exchange Services, Bonn, West Germany
The susceptibility of Sykes and vervet monkeys to experimental infection
with *L. donovani*
1986 - \$10,500
P. I. - Awadh A. Binhazim

Formal Teaching:

a. **Courses taught:**

Pathology for Sophomore Medical and Dental Students, School of Medicine, Meharry Medical College, Nashville - 1998 to present.

Pathology of infectious diseases
Clinical correlations of immunodeficiency diseases

Principles of Pathology for Pharmacy Students, College of Pharmacy, University of Texas at Austin - 1994 to present.

- 1) Pathology of bacterial diseases
- 2) Pathology of viral diseases
- 3) Pathology of fungal and other infectious diseases

Pathophysiology - honors course, College of Pharmacy, U.T. at Austin. 1997.

Post-graduate students, Laboratory Seminar Series, Center for Comparative Medicine, Baylor College of Medicine, Texas, USA - 1993-1994

- 1) Diseases of Retroviruses
- 2) Zoonotic Diseases

Sophomore and senior students, College of Veterinary Medicine, University of Georgia, Georgia, USA ; 07/89 - 03/92

- 1) General Pathology
- 2) Anatomic Pathology
- 3) Diagnostic Pathology

Continuing Education Programs and Training:

a. Laboratory workshops attended in the last 6 years:

1. 13th Annual Charles River Laboratories Annual Short Course. Conducted by Charles River Laboratories, June 21 – 25, 1999, Andover, Massachusetts.
2. IACUC 101 workshop. Conducted by AALAS and PRIM&R. March 19, 1999, San Diego, California.
3. Charles River Laboratories Annual Short Course. Conducted by Charles River Laboratories, June 22 – 25, 1998, Andover, Massachusetts.
4. Biopsy/PAP smear correlation: Application to the diagnosis of cervical intraepithelial lesions. Conducted by United States and Canadian Academy of Pathology (USCAP), CMLE credit 6 hr. March 6, 1997, Orlando, Florida.
5. Problems in Uterine Pathology. Conducted by USCAP, CMLE credit 6 hr. March 7, 1997, Orlando, Florida.
6. Cellular Morphology of Wright Stained Fluids. Conducted by American Society of Clinical Pathologists (ASCP) and College of American Pathologists (CAP), CMLE credit 6.5 hr, Dec 1, 1995, San Antonio, Texas.
4. Red Cell Disorders. Conducted by ASCP/CAP, CMLE credit hours 6.5 hr, June 27, 1995. Chicago, Illinois.
5. Opportunistic Pathogens. Conducted by ASCP/CAP, CMLE credit hours 6.5 hr, June 29, 1995, Chicago, Illinois.
6. Diseases of Laboratory Species and Research uses: A Pathologist's perspective - presented by Dr. C. B. Clifford of Charles River Laboratories, January 18, 1995. Baylor College of Medicine, Houston, Texas.
7. Practical Application of Immunoperoxidase Techniques. Conducted by ASCP/CAP. CME credit hours 3.5 hr, April 11, 1994, Seattle, Washington.
8. Flow Cytometry: A Practical tool for Clinical and Anatomical Pathologists. Conducted by ASCP/CAP. CME credit hours 3.5 hr, April 13, 1994, Seattle, Washington.

b. **Scientific meetings attended in the last 6 years:**

1. Attended the 7th International Symposium on Health Disparities, San Juan, Puerto Rico, USA. November 12 –15, 2000
2. Attended the 51st American Association Laboratory Animal Science National Meeting, San Diego, California, USA. November 5 –9, 2000
3. Attended the 16th Annual American Society of Laboratory Scientists, Salt Lake City, Utah, USA. March 2 -6, 2000
4. Attended the 48th Annual meeting of American Association of Laboratory Animal Science, Anaheim, California, USA. November 16-20, 1997
2. Attended the 86th Annual meeting of United States and Canadian Academy of Pathology, Orlando, Florida, USA. March 1 - 7, 1997
2. Attended the 28th Annual Primate Pathology Workshop. Orlando, Florida, USA. March 2, 1997.
3. Attended 46th Annual ACVP meeting, Atlanta, Georgia, USA. November 12 - 17, 1995.
4. Attended ASCP/CAP 1995 Summer meeting in Chicago, Illinois, USA. June 26-30, 1995
5. Attended ASCP/CAP 1994 Spring meeting in Seattle, Washington, April 9-14, 1994
6. Attended Annual Regional Meeting of C. L. Davis Foundation for the Advancement of Comparative Pathology, UTMB, Galveston, Texas, USA. October 7-9, 1994
7. Attended the 47th Annual Symposium on Fundamental Cancer Research, Houston, Texas, USA. October 13-14, 1994

c. **Other educational programs:**

Supervise the implementation of **EXCEL** an external comparative evaluation of laboratories program. A program committed to excellence in laboratory testing. Administered by the College of American Pathologists. 1994 to 1997

Organized a workshop on the biology, diseases and the use of Nonhuman Primates as animal models of human diseases, The University of Texas, M. D. Anderson Cancer Center, Science Park, Bastrop, Texas. March 30, 1995

Seminar invitations from other institutions over last 4 years:

1. Binhazim, A. A. The SCID-rh chimeric mouse as a model of retroviral diseases. Meharry Medical College, Nashville, Tennessee. April 1997.
2. Binhazim, A.A. Retroviral diseases. Presented at Texas A&M University, Department of Pathobiology, College Station, Texas, November 1994.
3. Binhazim, A.A. Retroviral diseases. Presented at Baylor College of Medicine, Center of Comparative Medicine, Houston, Texas. July 1993.

Professional Societies - Meeting presentations in the last 4 years:

1. Binhazim A. A. Spontaneous Anaplastic Large Cell Lymphomas. Presented at the 28th Annual Primate Pathology workshop, Orlando, FL, March 2, 1997.
2. Binhazim A. A. Protozoan Parasites of Human and Nonhuman Primates. Presented at Texas Branch American Association for Laboratory Animal Science Annual Meeting, San Antonio, TX, May 18-20, 1994.

Research Expertise:

- *Experimental Pathology and associated techniques*
- *Routine Histology and Specialized Histopathology procedures*
- *Specialized Cytopathology procedures*
- *Specialized Research techniques including:* Flow cytometry, PCR and agarose gels, cellular immunology assays, tissue culture techniques, ELISA, western blots, reverse transcriptase assay for retroviruses, antigen capture assays, parasite cultures, animal experimentation and inoculation techniques, animal models of human diseases, toxicology studies and Good Laboratory Practice requirements.