

Ayo Priscille DOUMATEY, MS, Ph.D.

CONTACT INFORMATION

National Institutes of Health
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EDUCATION

2008: Ph.D., Department of Microbiology, Howard University, College of Medicine, Washington DC

1999: Graduate Certificate in Quality Assurance and Quality Control, School of Pharmacy, University Claude Bernard, Lyon, France.

1998: Master of Science in Biochemistry/Minor: Cellular and Molecular Endocrinology, University Claude Bernard, Lyon, France.

1997: Bachelor of Science in Biochemistry/Minor in Microbiology, University Claude Bernard, Lyon, France.

POST-GRADUATE TRAINING

. Clinical Chemistry

- 2002 Training on Cobas and Elecsys Systems, Roche Diagnostics, Indianapolis, IN
- 1998-1999 Medical and Clinical Laboratory of Venissieux, Venissieux, France

. Medical Microbiology, 1998-1999, Medical and Clinical Laboratory of Venissieux, Venissieux, France

. ISO 9000 training, 1998-1999, Medical and Clinical Laboratory of Venissieux, Venissieux, France and School of Pharmacy, University Claude Bernard, France

. ISO 9001 internal auditor training, 1999, Medical and Clinical Laboratory of Venissieux, Venissieux, France

POST-DOCTORAL TRAINING

. **Introduction to Molecular Dynamics and Advanced Molecular Dynamics**, January 2013, CIT training, NIH

. **Design and Analysis of Protein-Ligand Interfaces**, December 2012, CIT training, NIH

. **Analysis and Advanced Visualization of Macromolecular Structure**, December 2012, CIT training, NIH

. **Microarray analysis with Open Source tools and advanced microarray analysis**, July 2012, CIT training, NIH

. **Ingenuity Pathway analysis (IPA), online training**, June 2012

. **Certificate of Clinical Research Curriculum (CCRC)**, December 2011, Clinical Center, NIH

. **Introduction to Principles and Practice of Clinical Research**, Fall-Spring 2010/2011, Clinical Center. NIH

. **Ethical and Regulatory Aspects of Clinical Research**, Fall 2010, NIH Clinical Center, Department of Bioethics.

. **Affymetrix Pharmacogenetic genotyping platform (DMET), in-house training by vendor**, 2010. NHGRI Core laboratory, NIH

. **Luminex Technology for multiplex bioassays, Bio-RAD, In-house training**, 2009, NHGRI, NIH

PROFESSIONAL EXPERIENCE

2008- Present: Center for Research in Genomics and Global Health, National Human Genome Research Institute, National Institutes of Health, Bethesda, MD.

Research Fellow

2008- Present: Center for Research in Genomics and Global Health, National Human Genome Research Institute, National Institutes of Health, Bethesda, MD.

Research Laboratory Manager

2000-2008: National Human Genome Center, Howard University, Washington DC.

Research Laboratory Manager

1999: Institute Pasteur-Merieux Connaught, Marcy-l'-Etoile, France.

Quality Assurance/ Quality Control Analyst

1998-1999: Medical and Clinical Laboratory of Venissieux, Venissieux, France

Quality Assurance Consultant

1997: Institut National de la Santé et de la Recherche Medicale (INSERM), Lyon, France.

Research Assistant (Internship)

1996: University Claude Bernard, Lyon, France

Laboratory Technician

RESEARCH EXPERIENCE

Research Activities

. **2008- PRESENT:** **Associate Investigator**, Genetic of Type 2 Diabetes in Diverse populations (PI: Dr. C Rotimi), NIH

. **2008- PRESENT:** **Associate Investigator**, Genetic of Type 2 Diabetes among Han Chinese (PI: Dr. C Rotimi), NIH

. **2008- PRESENT:** **Associate Investigator** Genetic of Obesity, Diabetes and Heart Diseases in African Diaspora populations (PI: Dr. C Rotimi), NIH

. **2003- 2008:** **Laboratory Director** Black Women's Health Study, Boston University, Slone Epidemiology Center, Boston, MA; Howard University Cancer Center, Washington, District of Columbia

. **2000-2008:** **Laboratory Coordinator** Africa America Diabetes Study (AADM) and Howard University Family Study, National Human Genome Institute, Howard University.

Peer-review manuscripts

. **2010- Present:** **Review Editor:** Frontiers in Applied Genetic Epidemiology and other peer-review journals (2010-present)

. **2011-Present:** **Manuscript reviewer** for peer-review journals including Plos One, American Journal of Human Genetics, International Journal of Obesity, JAMA.

TEACHING and RELATED TRAINING

2005-2006 **Medical Microbiology Labs**, Dental and Medical course
Graduate Teaching Program, Howard University, Washington DC

Fall 2006 **Cellular and Molecular Immunology, Graduate course in Microbiology**
Howard University, Washington DC

Fall 2012 **Scientists Teaching Science, Pedagogy course**, Office of Intramural Training & Education, NIH

MENTORING

2009-2011: Mentored and supervised a Pre-doctoral IRTA in the laboratory. Actively participated in the design, implementation, and troubleshooting of mentee's dissertation experiments; trained mentee to genomics and basic statistical tools. Reviewed and edited mentee's dissertation document and coached mentee to orally defend her dissertation.

2010-2011: Mentored a Post-Baccalaureate IRTA for a year – trained mentee to molecular laboratory techniques, good laboratory practices (GLP), quality control, experimental design, and data cleaning. Supervised mentee to conduct a study; data generated was presented at the NIH Spring Festival 2011 and I was mentee's preceptor for this presentation.

Summer 2011: Mentored a high School student for 6 weeks- trained mentee to biological and genetic notions as well as molecular techniques such as DNA/RNA extraction, RT-PCR; supervised mentee to conduct a gene expression study, which was presented at the NIH Summer Festival 2011 and I was mentee's preceptor for the presentation.

PARTICIPATION IN PROFESSIONAL CONFERENCES

Oral Presentations

Adipokines, Adiposity and Insulin Resistance in Populations of African Descent: The 6th Meeting of the African Society of Human Genetics, Yaoundé, Cameroon (March 12th-15th, 2009)

Genetic Epidemiology of Obesity Traits in Populations of the African Diaspora: The 2nd African Diabetes Congress, Yaoundé, Cameroon (February 25th- 28th, 2014)

Posters Presentations

The 32nd Annual Scientific Meeting of the Obesity Society, Boston, MA, Nov 2-7, 2014 “Whole Exome Sequencing in Metabolically Healthy but Obese African American Women”

The 31st Annual Scientific Meeting of the Obesity Society, Atlanta, GA, Nov.11-16, 2013.

1. “Adipocytokines and obesity-related hormones profiling in Africans”
2. “Genome-wide association of percentage fat mass (PFM) in Africans”

The 62nd Annual Meeting of American Society of Human Genetic (ASHG), San Francisco, CA Nov. 6-10, 2012 “A missense mutation in exon 2 of Adiponectin receptor 2 (ADIPOR2) is associated with serum insulin in African-American overweight and obese subjects”

The 30th Annual Scientific Meeting of the Obesity Society, San Antonio, TX, Sep.20-24, 2012. “Differential Expression of SOCS7, PDIA3, TBRG1, and COL4A2 genes in Omental Adipose Tissue of Obese Diabetic African Americans”

The 61st Annual Meeting of American Society of Human Genetic (ASHG), Montreal, Oct.11-15, 2011 “Whole genome gene expression profile of omental adipose tissue in obese Type 2 diabetic African Americans.”

The 60th Annual Meeting of American Society of Human Genetic (ASHG), Washington DC, Nov.2-6, 2010 “Genetic Variants in the promoter region of the gene encoding C-Reactive Protein (CRP) are associated with serum CRP levels in African Americans”

NIH Research Festival, October 5-8, 2010, Bethesda, MD “Circulating Resistin is associated with Biomarkers of Inflammation in Populations of African ancestry”.

The 137th annual meeting and exposition of the American Public Health Association (APHA), Philadelphia, PA, Nov. 7- 12, 2009. “Understanding the Genetic Basis of the Association between Adiponectin, Obesity and Cardiovascular Diseases in West Africans and African Americans”

The 27th Annual Scientific Meeting of the Obesity Society, Washington DC, Oct.24-28, 2009. “The IL6 -174 G/C Polymorphism is Associated with Serum Triglycerides Independently of Obesity in African Americans”

The 59th Annual Meeting of American Society of Human Genetic (ASHG), Honolulu, Oct.20-24, 2009. “Genome-wide association study identified novel susceptibility loci for Adiponectin in a population-based cohort of African Americans”

Meeting Attendance

- **The 28th Annual Scientific Meeting of the Obesity Society, San Diego, CA, Oct.8-12, 2010.**
- **The 4th Annual Biospecimen Research Network (BRN) Symposium, Bethesda, MD, Mar. 28-29th, 2011**

MEMBERSHIPS AND AFFILIATIONS

2011- Present	Member, Obesity Society
2009- Present	Member, African Society of Human Genetics
2002-2003	Member, American Society of Human Genetics

SERVICE TO NIH

2012- Present	Scientist affiliated member: Institutional Review Board (IRB), National Human Genome Research Institute, NIH
2009- Present	French Interpreter: Social work Department, Clinical Center, NIH

2010-2011

Science Teacher - Children's Inn Outreach, Children's Inn, NIH

LANGUAGES

French Reading- Advanced; Writing- Advanced; Speaking-Fluent

PUBLICATIONS (N= 39)

Selected Publications

1. Bentley AR, Chen G, Shriner D, **Doumatey AP**, et al. **Gene-based sequencing identifies lipid-influencing variants with ethnicity-specific effects in African Americans.** PLoS Genet. 2014 Mar 6; 10(3):e1004190. Doi: 10.1371/journal.pgen.1004190. ECollection 2014.
2. **Doumatey AP**, Zhou J, Adeyemo A, Rotimi C. **High sensitivity C-reactive protein (Hs-CRP) remains highly stable in long-term archived human serum.** Clin Biochem. 2014 Mar; 47(4-5):315-8. Doi: 10.1016/j.clinbiochem.2013.12.014. Epub 2013 Dec 27.
3. Ramos E, **Doumatey A**, et al. **Pharmacogenomics, ancestry and clinical decision making for global populations.** Pharmacogenomics J. 2013 Jul 9. doi: 10.1038/tpj.2013.24
4. Famooto A, ---- **Doumatey A** et al. **RPS19 and TYMS SNPs and Prevalent High Risk Human Papilloma Virus Infection in Nigerian Women.** PLoS One. 2013 Jun 27; 8(6):e66930
5. **Doumatey, AP** et al. **Paradoxical Hyperadiponectinemia is Associated with the Metabolically Healthy Obese (MHO) Phenotype in African Americans.** J Endocrinol Metab. 2012 April; 2(2):51-65
6. **Doumatey, AP** et al. **Circulating Adiponectin is associated with Renal Function Independent of Age and Serum Lipids in West Africans.** Int J Nephrol. 2012; 2012:730920. Epub 2012 Aug 22

7. **Doumatey AP**, et al. ***C-reactive protein (CRP) promoter polymorphisms influence circulating CRP levels in a genome-wide association study of African Americans.*** Hum Mol Genet. 2012 Apr 18.
8. Tekola Ayele F, **Doumatey A** et al. ***Genome-wide associated loci influencing interleukin (IL)-10, IL-1Ra, and IL-6 levels in African Americans.*** Immunogenetics. 2012 May; 64 (5):351-9. Epub 2011 Dec 29.
9. Charles BA, **Doumatey A** et al. ***The roles of IL-6, IL-10, and IL-1RA in obesity and insulin resistance in African-Americans.*** J Clin Endocrinol Metab. 2011 Dec; 96 (12):E2018-22. Epub 2011 Sep 28.
10. Meilleur KG, **Doumatey A** et al. ***Circulating adiponectin is associated with obesity and serum lipids in West Africans.*** J Clin Endocrinol Metab. 2010 Jul; 95(7):3517-21. Epub 2010 Apr 9.
11. **Doumatey AP** et al. ***Relationships among obesity, inflammation, and insulin resistance in African Americans and West Africans.*** Obesity (Silver Spring). 2010 Mar; 18(3):598-603. Epub 2009 Oct 1.

OTHER PUBLICATIONS:

1. Gurdasani D, Carstensen T, Tekola-Ayele F---- **Doumatey AP** et al. ***The African Genome Variation Project shapes medical genetics in Africa.*** *Nature.* 2014 Dec 3. doi: 10.1038/nature13997. [Epub ahead of print]
2. Ng MC,....., **Doumatey A**, et al. ***Meta-analysis of genome-wide association studies in African Americans provides insights into the genetic architecture of type 2 diabetes.*** PLoS Genet. 2014 Aug 7; 10(8):e1004517.eCollection 2014 Aug. (*Collaborative study with several consortia including one of CRGGH, Howard University Family Study, HUFs*)
3. Thomson R, Genovese G, Canon C, Kovacsics D, Higgins MK, Carrington M, Winkler CA, Kopp J, Rotimi C, Adeyemo A, **Doumatey A**, Ayodo G, Alper SL, Pollak MR, Friedman DJ, Raper J. ***Evolution of the primate trypanolytic factor APOL1.*** Proc Natl Acad Sci U S A. 2014 May 20; 111(20).Epub 2014 May 7
4. Shriner D, Herbert A, **Doumatey AP**, Zhou J, Huang H, Erdos MR, Chen G, Gerry NP, Christman MF, Adeyemo A, Rotimi CN. ***Multiple loci associated with renal function in African Americans.*** PLoS One. 2012; 7(9): Epub 2012 Sep 13.
5. Adeyemo A, Bentley AR, Meilleur KG, **Doumatey AP**, Chen G, Zhou J, Shriner D, Huang H, Herbert A, Gerry NP, Christman MF, Rotimi CN. ***Transferability and Fine Mapping of genome-wide associated loci for lipids in African Americans.*** BMC Med Genet. 2012 Sep 21; 13(1):88. [Epub ahead of print]
6. Bentley AR, **Doumatey AP**, Chen G, Huang H, Zhou J, Shriner D, Jiang C, Zhang Z, Liu G, Fasanmade O, Johnson T, Oli J, Okafor G, Eghan BA Jr, Agyenim-Boateng K, Adeleye J, Balogun W, Adebamowo C, Amoah A, Acheampong J, Adeyemo A, Rotimi CN. ***Variation in APOL1 Contributes to Ancestry-Level Differences in HDLc-Kidney Function Association.*** Int J Nephrol. 2012; 2012: 748984. Epub 2012 Sep 2.
7. Chen G, Ramos E, Adeyemo A, Shriner D, Zhou J, **Doumatey AP**, Huang H, Erdos MR, Gerry NP, Herbert A, Bentley AR, Xu H, Charles BA, Christman MF, Rotimi CN. ***UGT1A1 is a major***

locus influencing bilirubin levels in African Americans. Eur J Hum Genet. 2012 Apr; 20(4):463-8. Epub 2011 Nov 16.

8. Chambers JC, ..., Doumatey A et al. **Genome-wide association study identifies loci influencing concentrations of liver enzymes in plasma.** Nat Genet. 2011 Oct 16;43(11):1131-8 (Collaborative study with several consortia including one of CRGGH's cohort, HUFS)
9. Faruque MU, Chen G, **Doumatey A**, Huang H, Zhou J, Dunston GM, Rotimi CN, Adeyemo AA. **Association of ATP1B1, RGS5 and SELE polymorphisms with hypertension and blood pressure in African-Americans.** J Hypertens. 2011 Oct; 29(10):1906-12.
10. Fox ER, Young JH, Li Y, Dreisbach AW, Keating BJ, Musani SK, Liu K, Morrison AC, Ganesh S, Kutlar A, Ramachandran VS, Polak JF, Fabsitz RR, Dries DL, Farlow DN, Redline S, Adeyemo A, Hirschorn JN, Sun YV, Wyatt SB, Penman AD, Palmas W, Rotter JI, Townsend RR, **Doumatey AP** et al. **Association of genetic variation with systolic and diastolic blood pressure among African Americans: the Candidate Gene Association Resource study.** Hum Mol Genet. 2011 Jun 1; 20(11):2273-84. Epub 2011 Mar 4.
11. Charles BA, Shriner D, **Doumatey A**, Chen G, Zhou J, Huang H, Herbert A, Gerry NP, Christman MF, Adeyemo A, Rotimi CN. **A genome-wide association study of serum uric acid in African Americans.** BMC Med Genomics. 2011 Feb 4; 4:17.
12. Ramos E, Chen G, Shriner D, **Doumatey A**, Gerry NP, Herbert A, Huang H, Zhou J, Christman MF, Adeyemo A, Rotimi C. **Replication of genome-wide association studies (GWAS) loci for fasting plasma glucose in African-Americans.** Diabetologia. 2011 Apr; 54(4):783-8. Epub 2010 Dec 25.
13. Sumner AE, Zhou J, **Doumatey A**, Imoisili OE, Amoah A, Acheampong J, Oli J, Johnson T, Adebamowo C, Rotimi CN. **Low HDL-Cholesterol with Normal Triglyceride Levels is the Most Common Lipid Pattern in West Africans and African Americans with Metabolic Syndrome: Implications for Cardiovascular Disease Prevention.** CVD Prev Control. 2010 Sep 1;5(3):75-80.
14. Chen G, Shriner D, Zhou J, **Doumatey A**, Huang H, Gerry NP, Herbert A, Christman MF, Chen Y, Dunston GM, Faruque MU, Rotimi CN, Adeyemo A. **Development of admixture mapping panels for African Americans from commercial high-density SNP arrays.** BMC Genomics. 2010 Jul 5; 11:417
15. Adeyemo A, Chen G, Zhou J, Shriner D, **Doumatey A**, Huang H, Rotimi C. **FTO genetic variation and association with obesity in West Africans and African Americans.** Diabetes. 2010 Jun; 59(6):1549-54. Epub 2010 Mar 18

OTHER QUALIFICATIONS

Knowledge of Microsoft office suite, Windows 95/98/XP

Expertise with the following:

- **ELISA** (Enzyme linked Immunosorbent Assay, **RIA** (Radio Immunoassay), **Bioplex 200** (BioRad)
- **HPLC, GC**
- **Refractometry, Spectrometry, Protein assays**
- Current Molecular Biology techniques (**DNA/RNA extraction and quantification, DNA amplification, PCR, Proteins and Nucleic Acids purification, gene expression, Genotyping** – *Sequenom, Drug Metabolizing Enzymes and Transporter (DMET) Affymetrix-Sequencing* etc.)
- **Electrophoresis, Immunoblotting methods.**
- **Clinical, Medical and Environmental Chemistry.**
- **Microbiology Techniques** (Identification, speciation, detection, bacterial culture)
- **Assay optimization and troubleshooting.**
- **Laboratory equipment maintenance.**
- **Laboratory equipment and consumables procurement (Statement of Work (SOW), sole source justification etc.)**
- **Laboratory management**
- **Projects management and coordination**
- **Biorepository (specimen life cycle, specimen management)**