Name : **Dr. Hari Om Singh**
Designation : Scientist 'C'
Date of Birth : 01/03/1978
Department : Molecular Biology
Email Address: hsingh@nariindia.org,hariomsgpgims@gmail.com

Educational Qualification

Degree	Year	Institution / University
PhD	2009	SGPGIMS Lucknow (C.S.J.M. Kanpur University Kanpur), UP, India
MSc	2001	Centre for Biotechnology, APS University Rewa, MP, India
BSc	1998	Allahabad University (Central University), UP, India

Area of Research Interest

Host Genetic and Pharmacogenomics

Awards and Honors

1. **Young Scientist Award** at ICIPMBS 2018, 30 September, Indore-India
2. NIH office of **AIDS Research(OAR) Training fellowship Awards, 2018,** October23, by CDRF Global , VA2209, USA
3. **Research Associate fellowship** from Indian Council of Medical Research (ICMR), New Delhi, India 2009
4. **Senior Research fellowship** from Indian Council of Medical Research (ICMR), New Delhi, India 2008
5. **Junior Research fellowship** from Department of Biotechnology (DBT), New Delhi, India
6. **Ist prize for Paper presentation:** on "Association of GSTT1and GSTM1 Genetic Polymorphism in Cervical Cancer". Symposium cum Training Programme for Building Capacity, NIPCID. Guwahati Asam 24-26 Oct, 2005.
7. **Ist prize for Poster presentation:** Singh Hariom, Mittal Balraj. CCR5-Ä32 Polymorphism and Susceptibility to Cervical Cancer: Association with Early Stage of Cervical Cancer. 27th Annual Convention of Indian Association for Cancer Research. Networking Research to Applications & International Symposium on Frontiers in Functional Genomics at Ahmedabad February 7-9; 2008

Research Experience

Scientist C	Department of Molecular Biology, National AIDS Research Institute, Pune	Sep 2015 – till date
Scientist B	Department of Molecular Virology, National AIDS Research Institute, Pune	Aug 2010 –Aug 2015
ICMR-RA	Department of Microbiology, SGPGIMS, Lucknow, India	Feb 2010 – Jul 2010
ICMR-SRF	Department of Neurosurgery, SGPGIMS, Lucknow, India	Aug 2008 – Jan 2009
PhD student	Department of Genetics, SGPGIMS, Lucknow, India	Feb 2005 – Jul 2008
JRF	Division of Microbiology, CIRG, Mathura, India	Feb 2004 – May 2004
JRF	Division of Genetic Resource of Biotechnology, CIMAP, Lucknow, India	Jul 2002 – Jul 2003
Biotech Trainee	National Botanical Research Institute, Lucknow, India	Feb 2001 – Jul 2001

Publications: 30 Paper Published, 1 book chapter, 1 Gene sequence

List of published paper

1. **Singh H,** Lata S, Gangakhedkar RR. Prevalence of CYP2D6*4 1934G/A Polymorphism in Western Indian HIV patients**. APMIS.** 2018 Nov;126(11):842-851
2. **Singh H,** Lata S, Dhole T. Occurrence of CYP2B6 516G>T polymorphism in patients with ARV-associated hepatotoxicity. **Molecular Genetics & Genomic Medicine.** (MGG3-2018-10-0300-accpeted November 5, 2018)
3. **HariOm Singh#,** Nayana Nambiar, Dharmesh Samani, Raman R.Gangakhedkar. Occurrence of Interleukin-2 (330 G/T) Promoter Polymorphism in HIV patients. **Current Molecular Medicine** CMM-2018-0036 (July 2018 accepted)
4. **Singh H,** Gangakhedkar RR. Occurrence of APOBEC3G variations in West Indian HIV patients. **Microb Pathog**. 2018 Jun 2; 121:325-330.
5. **HariOm Singh,** Dharmesh Samani, Vijay Nema, Manisha V. Ghate, and R. R. Gangakhedkar. IL-1RN and IL-1β Polymorphism and ARV-Associated Hepatotoxicity. **Mediators of Inflammation.** 2018 Apr 8;2018:4398150
6. **Singh H**, Samani D, Nambiar N, Ghate MV, Gangakhedkar RR. Effect of matrix metalloproteinase-21 (572C/T) polymorphism on HIV-associated neurocognitive disorder. **APMIS.** 2018 Apr;126(4):329-336.

7. **Singh H,** Samani D, Nambiar N, Ghate MV, Gangakhedkar RR.Prevalence of MMP-8 gene polymorphisms in HIV-infected individuals and its association with HIV-associated neurocognitive disorder. **Gene.** 2018; 646:83-90.
8. **Singh H** and Nain S. Matrix Metalloproteinases Enzyme and Risk for HIV-Associated Neurocognitive Disorders. **Austin Journal of HIV/AIDS Research.** January 30, 2018
9. **Singh H**, Samani D, Ghate MV, Gangakhedkar RR. Impact of cellular restriction gene (TRIM5α, BST-2) polymorphisms on the acquisition of HIV-1 and disease progression. **J Gene Med**. 2018 Feb;20(2-3):e3004.
10. **Singh H**, Lata S, Nema V, Samani D, Ghate M, Gangakhedkar RR. CYP1A1m1 and CYP2C9*2 and *3 polymorphism and risk to develop ARV-associated hepatotoxicity and its severity. **APMIS.** 2017 Jun; 125(6):523-535.
11. **HariOm Singh[1]#,** Dharmesh Samani, Manisha V Ghate, R.R.Gangakhedkar[2] Impact of cellular restriction gene (TRIM5α, BST-2) polymorphisms on the acquisition of HIV-1 and disease progression. **J Gene Med.** 2017 Dec 28. doi: 10.1002/jgm.3004
12. **Singh H,** Marathe S D, Nain S, Samani D, Nema V, Ghate M V, Gangakhedkar R . Promoter polymorphism MMP-1 (-1607 2G/1G) and MMP-3 (-1612 5A/6A) in development of HAND and modulation of pathogenesis of HAND. **J Biosci.** 2017 September, 42, 481–490
13. **Singh HO**, Lata S, Angadi M, Bapat S, Pawar J, Nema V, Ghate MV, Sahay S, Gangakhedkar RR. Impact of GSTM1, GSTT1 and GSTP1 gene polymorphism and risk of ARV-associated hepatotoxicity in HIV-infected individuals and its modulation. **Pharmacogenomics J**. 2017 Jan; 17(1):53-60.
14. Vijay Nema, **Hari Om Singh**. Host Pharmacogenomics: to be Remembered while Planning a Cure for HIV. **BAOJ HIV** 2017 3:1
15. **HariOm Singh**, Shruti D Marathe, Sumitra Nain, Vijay Nema, Manisha Ghate, Raman R.Gangakhedkar. Impact of variants of MMP-7(-181A>G) gene in susceptibility to development of HAND and its severity**. APMIS.** 2016 Nov;124(11):966-972
16. **HariOm Singh**, Shruti D Marathe, Sumitra Nain, Vijay Nema, Manisha Ghate, Raman R.Gangakhedkar. Genetic variation of MMP-2 & MMP-9 polymorphism in susceptibility to development of HAND and its severity**. J Gene Med.** 2016 Sep; 18(9):250-7.
17. **HariOm Singh**, Shruti D Marathe, Sumitra Nain, Vijay Nema, Manisha V Ghate, Raman.R.Gangakhedkar. APOBEC3B deletion impacts on susceptibility to acquire HIV-1 and its advancement among Individuals in Western India. **APMIS**. 2016 Oct;124(10):881-7

18. **HariOm Singh**, Shruti Marathe, Sumitra Nain, Mansa Angadi, Shradha Bapat, Jyoti Pawar,Vijay Nema, Manisha Ghate, Seema Sahay, R.R.Gangakhedkar .Coding region variant 186H/R in Exon 4 of APOBEC3G among individuals of Western India. **APMIS**. 2016 May;124(5):401-5
19. Supriya D. Mahajan*,Asmita Gaekwad, Jyoti Pawar, Srikanth Tripathy, Manisha Ghate, Jayanta Bhattacharya, **HariOm Singh**, Stanley A. Schwartz, Ramesh Paranjape and Raman Gangakhedkar. Cardiac Morbidity in an HIV-1 Lipodystrophy Patient Cohort Expressing the TNF-α-238 G/A Single Nucleotide Gene Polymorphism. **Curr HIV Res**. 2015; 13(2):98-108.
20. Sumitra Nain,* Anu Sharma, **Hariom Singh,** Sarvesh Paliwal. Recent Advances in use of Semicarbazones as Anticonvulsant Agents: A Review. **J. Biomed. Ther. Sci.** 2015, 2(1), 1-7
21. **Hari Om Singh,** Amita Singh, TN Dhole and Sumitra Nain. Effect of Ormeloxifene for Management of Dysfunctional Uterine Bleeding. **Biochem Physiol 2015**, 4:3
22. **Hari Om Singh,** Amita Singh, TN Dhole and Sumitra Nain. Factor associated to Bacterial Vaginosis in Nonpregnant women of North Indian population. **J Biotechnol Biomater** 2015, 5:3
23. **Hari OS,** Sonali G and Sumitra N. Awareness and Trends of Blood Cholesterol and Susceptibility to Develop Heart Disease. **Adv Genet Eng** 2015, 4:3
24. Gangwar R, Mittal B. Srivastava Shuti, **Singh H,** Mittal R. Genetic Variants of DNA Repair Gene XPC Modulating Susceptibility to Cervical Cancer in North India. **Onco Res** 2010; 18:1-100
25. **Singh H,** Jain M, Mittal B. TGF-β1 (-509C/T) Gene Polymorphisms and Susceptibility to Cervical Cancer. **Onco Res.** 2009; 18(1):41-5.
26. **Singh H,** Sachan R, Devi S, Pandey S N, Mittal B. Association of GSTM1, GSTT1 and GSTM3 gene polymorphisms and susceptibility to cervical cancer in North Indian population. **Am J Obstet Gynecol.** 2008; 198:303-6.
27. **Singh H,** Sachan R, Geol H, Mittal B. Genetic Variations in Interleukin-1 receptor antagonist and Interleukin-1β genes and cervical cancer. **British J. Obstetrics and Gynecology** 2008; 115:633–638.
28. **Singh H,** Sachan R, Jain M, Mittal B. CCR5-Δ32 Polymorphism and Susceptibility to Cervical Cancer: Association with Early Stage of Cervical Cancer. **Oncol Res.** 2008; 17:87-91.
29. **Singh H,** Jain M, Sachan R, Mittal B. TNF-α (-308G/A) and IL-10(-819C/T) Promoter Polymorphisms and Risk of Cervical Cancer. **Int. J Gynecological Cancer** 2009; 19(7):1190-1194.
30. **Singh H,** Jain M, Mittal B. MMP-7(-181 A/G) Gene Polymorphisms and Risk for Cervical Cancer. **Gynecol Oncol.** 2008; 110:71-5.

Book chapter

1. Sumitra Nain, Garima Mathur, Pragati Karana, and **HariOm Singh.** Physical and Chemical Properties of Nanobiomaterials. **Pharmaceutical Technology** (Nanobiomaterials Applications in Drug Delivery) **Apple Academic Press**. Mar, 2017

Gene sequence

2. Jagtap,D.D., Gupte,D.S., Thakar,M.R., **Singh,H.O**., Pandey,S., C,S.K. and Paranjape, R.S. Molecular characterization of tetherin/BST-2 gene promoter in Indian HIV infected long term non progressors. **GenBank-2014**

Brief about the work of Scientist

I am focusing on issues like, NNRTIs, NRTIs drug-induced toxicity in patients with HIV infection, Antithrombotic drugs (Clopidogrel, Warfarin, and Acitrom) induced thromboembolic events in patients with cardiac diseases, Docetaxel- induced resistance or toxicity in patients with prostate cancer, Cisplatin-induced resistance or toxicity in patients with cervical cancer and HIV vulnerability and disease progression, HIV-associated Neurocognitive Disorder (HAND) and HIV-associated lipodystrophy using PCR, Sequencing and Micro array. I look at the genetic and epigenetic variations of drug metabolizing enzymes, transporters and receptor genes in drug responders and non-responders. Likewise, I look at the role of host genes (AIDS Restriction factors- APOBEC, TRIM5α, BST2, Cytokines-MMPs, Apo family of lipoprotein, Lipid Metabolizing Enzyme and Transporter genes etc.) with HIV vulnerability and disease progression, HAND and metabolic complication like HIV-associated lipodystrophy.

Additionally, my lab is involved in routine activities like CYP2B6 genotyping test to know the status of drug metabolizers for Nevirapine and Efavirenz regimen (drugs involved with 8-10% Hepatotoxicity, 25-70% Neuropsychiatric toxicity), which are done upon request from the clinician. Likewise, it also includes HLAB57:01 allele testing to know the presence of 01 allele. 01 allele is associated with Abacavir (ABC) - induced hypersensitivity.