

Brief Profile

Name: **GOPESHWAR NARAYAN, Ph.D.**
Present Position: Senior Professor
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I am currently working as Senior Professor in the Department of Molecular and Human Genetics, Institute of Science, Banaras Hindu University. My laboratory has been working on the molecular pathology of complex diseases including cervical cancer, gastric cancer, gallbladder cancer, hematological malignancies and type 2 diabetes mellitus. I have authored/co-authored 113 research papers in various journals and three book chapters. My laboratory has identified critical biochemical, and molecular-genetic pathways that are deregulated in cancers. We have successfully demonstrated the critical role of epigenetic alterations including promoter hypermethylation, histone deacetylation and long non-coding RNAs in the initiation and progression of various cancers. We have identified potential diagnostic and prognostic markers; and therapeutic molecular-genetic targets in multiple cancers. We are currently working on therapeutic potential of selected phytoextracts in cervical cancer development and progression. We have also identified genetic risk factors associated with type 2 diabetes mellitus. My laboratory is also part of various clinical genetic studies and studies on the animal model systems of human diseases.

Professional experience:

1. **August 1994 - August 1995:** Visiting Scientist, Federal Ministry of Research and Technology of Germany, Humboldt University, Berlin, **Germany**.
2. **September 1995 - November 2000:** Assistant Cytogeneticist cum Lecturer, Guru Nanak Dev University, Amritsar, **India**.
3. **November 2000 – August 2004:** Postdoctoral Research Scientist, Department of Pathology, College of Physicians & Surgeons, Columbia University, New York, **USA**.
4. **September 2004 – March 2006:** Associate Research Scientist, Department of Pathology, College of Physicians & Surgeons, Columbia University, New York, **USA**.
5. **March 2006 – March 2009:** Reader, Department of Molecular & Human Genetics, Banaras Hindu University, Varanasi, **India**.
6. **March 2009 – March 2012:** Associate Professor, Department of Molecular & Human Genetics, Banaras Hindu University, Varanasi, **India**.
7. **March 2012 – March 2022:** Professor, Department of Molecular & Human Genetics, Banaras Hindu University, Varanasi, **India**.
8. **March 2022 – Present:** Senior Professor, Department of Molecular & Human Genetics, Banaras Hindu University, Varanasi, **India**.

Research Publications: 113

1. **Narayan G**, Raman R (1995): Cytological evaluation of global DNA methylation in mouse genome. **Hereditas**, 123: 275-283.
2. Raman R, **Narayan G** (1995): 5-Azadeoxycytidine-induced inhibition of differentiation of spermatogonials into spermatocytes in the mouse. **Molecular Reproduction and Development**, 42: 284-290.
3. Su Z-Z, Gopalkrishnan RV, **Narayan G**, Dent P, Fisher PB (2002): Progression elevated gene-3, PEG-3, induces genomic instability in rodent and human tumor cells. **Journal of Cellular Physiology**, 192: 34-44.
4. Pulido HA, **Narayan G**, Vargas H, Wheeler CM, Mansukhani M, Murty VVVS (2002): Mapping common deleted regions on 5p15 in cervical carcinoma and their occurrence in precancerous lesions. **Molecular Cancer**, 1: 3.
5. Harris CP, Lu XY, **Narayan G**, Singh B, Murty VVVS, Rao PH (2003): Comprehensive molecular cytogenetic characterization of cervical carcinoma cell lines. **Genes Chromosomes & Cancer**, 36: 233-241.
6. **Narayan G**, Pulido HA, Koul S, Vargas H, Zhang FF, Villella J, Schneider A, Terry MB, Mansukhani M, Murty VV (2003): Frequent promoter methylation of CDH1, DAPK, RARB, and HIC1 genes in carcinoma of cervix uteri: Relationship to clinical outcome. **Molecular Cancer**, 2: 24.
7. **Narayan G**, Pulido HA, Koul S, Lu X-Y, Harris CP, Yeh YA, Vargas H, Posso H, Terry MB, Gissmann L, Schneider A, Mansukhani M, Rao PH, Murty VVVS (2003): Genetic analysis identifies putative tumor suppressor sites at 2q34-q35 and 2q36.3-q37.1 involved in cervical cancer progression. **Oncogene**, 22: 3489-3499.
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9. Jhang JS, **Narayan G**, Murty VVVS, Mansukhani MM (2004): Renal oncocytomas with 11q13 rearrangements: Cytogenetic, molecular and immunohistochemical analysis of cyclin D. **Cancer Genetics and Cytogenetics**, 149: 114-119.
10. Michel L, Rodrigues ED, **Narayan G**, Hernando E, Murty VVVS, Benezra R (2004): Complete loss of the tumor suppressor MAD2 causes premature cyclin B degradation and mitotic failure in human somatic cells. **Proceedings of the National Academy of Sciences, USA**, 101: 4459-4464.
11. **Narayan G**, Raman R (2004): Analysis of topological organization of chromatin during spermatogenesis in mouse testis. **Genetics and Molecular Biology**, 27: 33-38.
12. **Narayan G**, Pulido HA, Nandula SV, Basso K, Sugirtharaj DD, Vargas H, Villella J, Meyer L, Schneider A, Gissmann L, Dürst M, Pothuri B, Murty VVVS (2004): Promoter hypermethylation of *FANCF*: Disruption of fanconianemia-BRCA pathway in cervical cancer. **Cancer Research**, 64: 2994-2997.
13. Koul S, McKiernan JM, **Narayan G**, Houldsworth J, Bacik J, Dobrzynski DL, Assaad AM, Mansukhani M, Reuter VE, Bosl GJ, Chaganti RSK, Murty VVVS (2004): Role of promoter hypermethylation in cisplatin treatment response in male germ cell tumors. **Molecular Cancer**, 3: 16.

14. Murty VV, **Narayan G** (2005): Detection of hypermethylated genes in women with and without cervical neoplasia. Correspondence. **Journal of the National Cancer Institute**, 97: 1548.
15. **Narayan G**, Goparaju C, Pulido HA, Kaufmann AM, Schneider A, Durst M, Mansukhani M, Pothuri B, Murty VV (2006): Promoter hypermethylation-mediated inactivation of multiple Slit-Robo genes in cervical cancer progression. **Molecular Cancer**, 5: 16.
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21. Vakiani E, Basso K, Klein U, Mansukhani MM, **Narayan G**, Smith PM, Murty VV, Dalla-Favera R, Pasqualucci L, Bhagat G (2008): Genetic and phenotypic analysis of B-cell post-transplant lymphoproliferative disorders provides insights into disease biology. **Hematological Oncology**, 26:199-211.
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23. **Narayan G**, Scotto L, Neelakantan V, Kottoor SH, Wong AHY, Loke S-L, Mansukhani M, Pothuri B, Wright JD, Kaufmann AM, Schneider A, Arias-Pulido H, Tao Q, Murty VV (2009): Protocadherin PCDH10, involved in tumor progression, is a frequent and early target of promoter hypermethylation in cervical cancer. **Genes Chromosomes & Cancer**, 48: 983-992.
24. **Narayan G**, Murty VV (2010): Interactive genomic approaches in cervical cancer: implications for molecular pathogenesis. **Future Oncology**, 10: 1643-1652.
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leukemia contributes to chemotherapy resistance. **Genes Chromosomes & Cancer**, 50: 1043-1053.

26. Prasad SB, **Narayan G** (2012): A new insight of GSK3B regulation: implications in cancer therapy. **Journal of Scientific Research, Banaras Hindu University**, 56: 25-34.

27. Singh S, Ansari MA, **Narayan G** (2012). Pathobiology of gallbladder cancer. **Journal of Scientific Research, Banaras Hindu University**, 56: 35-45.

28. Singh S, Prasad SB, Yadav SS, Agrawal NK, **Narayan G** (2012): Association of common variants of CDKN2A/2B rs10811661 (C/T) and WFS1 rs6446482 (C/G) with type 2 diabetes mellitus in Indian population of eastern Uttar Pradesh. **Journal of Diabetes & Metabolism**, 3: 9.

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marker for clinical phenotypes of gastric cancer. **International Journal of Advanced Research**, 2: 278-288.

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41. Pandey A, Vimal D, Chandra S, Saini S, **Narayan G**, Chowdhuri DK (2014): Long term dietary exposure to low concentration of dichloroacetic acid promoted longevity and attenuated cellular and functional declines in aged *Drosophila melanogaster*. **AGE (Dordr)**, 36: 9628.

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55. Pandey A, Saini S, Khatoon R, Sharma D, **Narayan G**, Kar Chowdhuri D (2016): Overexpression of hsp27 rescued neuronal cell death and reduction in life- and health-span in *Drosophila melanogaster* against prolonged exposure to dichlorvos. **Molecular Neurobiology**, 53: 3179-3193.
56. **Narayan G**, Xie D, Ishdorj G, Scotto L, Mansukhani M, Pothuri B, Wright JD, Kaufmann AM, Schneider A, Arias-Pulido H, Murty VV (2016): Epigenetic inactivation of TRAIL decoy receptors at 8p12-21.3 commonly deleted region confers sensitivity to Apo2L/TRAIL-Cisplatin combination therapy in cervical cancer. **Genes Chromosomes & Cancer**, 55: 177-189.
57. Singh S, Agrawal NK, **Narayan G** (2016): Association of KCNJ11 E23K (rs5219) polymorphism to Type 2 diabetes mellitus: a case-control study in Indian population of Eastern Uttar Pradesh. **Diabetes Research and Treatment Open Access**, 3: 130.
58. Yadav SS, Prasad SB, Prasad CB, Pandey LK, Pradhan S, Singh S, **Narayan G** (2016): CXCL12 is a key regulator in tumor microenvironment of cervical cancer: an in vitro study. **Clinical and Experimental Metastasis**, 33:431-439.
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60. Singh M, Modi A, **Narayan G**, Singh SK (2016): Benzothiazole derivatives bearing amide moiety: potential cytotoxic and apoptosis-inducing agents against cervical cancer. **Anticancer Drugs**, 27: 519-532.
61. Kumari S, Puneet, Prasad SB, Yadav SS, Kumar M, Khanna A, Dixit VK, Nath G, Singh S, **Narayan G** (2016): Cyclin D1 and cyclin E2 are differentially expressed in gastric cancer. **Medical Oncology**, 33:40.
62. Vijayakumar MR, Kosuru R, Singh SK, Prasad CB, **Narayan G**, Muthu MS, Singh S (2016): Resveratrol loaded PLGA: D- α -tocopheryl polyethylene glycol 1000 succinate blend nanoparticles for brain cancer therapy. **RSC Advances**, 6: 74254-74268.
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66. Mishra D, Singh S, **Narayan G** (2016): Role of B Cell Development Marker CD10 in Cancer Progression and Prognosis. **Molecular Biology International**, 2016:4328697.
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mononuclear cells and urinary CD80 levels in children with idiopathic nephrotic syndrome. **Pediatric Nephrology**, 32: 1355-1361.

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2. **Narayan G**, Singh S (2016): Molecular Genetics of Cervical Precancerous Lesions: Implications to Prognostic Model Development. **In: Cervical Cancer: Recent Research and Review Studies**. SM eBooks, pp1-14. ISBN: 978-1-944685-91-1.

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Number of abstracts of research work in international and national conferences: 64

Ph.D. Guidance:

Ph.D. Degree Awarded: 17

Ph.D. Ongoing: 03

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4. Life Member: All India Cell Biology Society
5. Life Member: SP Ray-Chaudhuri Memorial Foundation
6. Life Member: Indian Society of Human Genetics
7. Executive Committee member: Indian Society of Human Genetics, 2019-2023
8. Life Member: Indian Association for Cancer Research

Member of the Editorial Board:

1. The Journal of Biology, KRE Publications, New Delhi.
2. Journal of Scientific Research, Banaras Hindu University.
3. American Medical Journal, Science Publications.
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