

**PATENT FILED:**

(i) A non-invasive assay and a method for early detection of ovarian cancer

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Application No. 2021-11002569

Date of Filing: 19.01.2021

(ii) Assay for detecting a target analyte from a biological sample and a method of detection thereof.

**Seema Nara, Pranav Tripathi and Manisha Sachan, MNNIT Allahabad**

Application No. 20211005761

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**Publications:**

- [1] **Sachan Manisha** and Raman R. (2006) Developmental methylation of the regulatory region of *HoxB5* gene in mouse correlates with its tissue-specific expression. **Gene**, 380 151-158.(**IF:3.9**)
- [2] **Sachan Manisha** and Raman R. (2008) Developmental methylation of the coding region of *c- fos* occurs perinatally, stepwise, and sequentially in the laboratory mouse. **Gene**, 416 22-19.(**IF:3.9**)
- [3] Pamnani M, Sinha P, Nara S and **Sachan M** (2014) Study of promoter DNA methylation of Sox11 and its correlation with tissue-specific expression in the laboratory mouse. **Gene**, 552 133-139.(**IF:3.9**)
- [4] **Sachan M** and Raman R (2014) Unmethylated/hypomethylated status of developmentally important genes in brain tissue of mammals, **South Asian Journal of Experimental Biology** 4 226-231.
- [5] Singh S, Singh K, and **Sachan M** (2014) Association study of functional polymorphisms of DNMT3A and DNMT3B genes with breast carcinoma in north Indian population, **South Asian Journal of Experimental Biology** 5 121-126.
- [6] Kaur M and **Sachan M** (2015) Epigenetic modifications: Therapeutic potential in cancer **Brazilian Archives of Biology and Technology** 58 (4), 526-539. (**IF:1.4**)
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- [8] Pamnani M, Sinha P, Singh A, Nara S and **Sachan M** (2016) Study of Sox9 and Oct4 promoter methylation and its correlation with expression during testis development in laboratory mouse **Genetics Molecular Biology** 39,3, DOI:10.1590/1678-4685-GMB-2015-0172.(**IF:2.1**)
- [9] Rastogi M, Gupta S and **Sachan M** (2016) Biomarkers towards Ovarian Cancer Diagnostics: Present and Future Prospects **Brazilian Archives of Biology and Technology** Vol.59: e16160070, Jan-Dec DOI:10.1590/1678-4324-2016160070. (**IF:1.4**)
- [10] Kaur M, Gupta S and **Sachan M** (2016) Development of a multiplex methylight assay for the detection of DAPK and SOX1 methylation in epithelial ovarian cancer in north Indian population. **Genes & Genetic Systems** Nov 26;91(3):175-181.(**IF:1.5**)
- [11] Sinha P, Singh K and **Sachan M** (2017) Heterogeneous pattern of DNA methylation in developmentally important genes correlate with its chromatin conformation. **BMC Molecular Biol** (2017) 18:1 DOI 10.1186/s12867-016-0078.(**IF:3.0**)
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- [13] Singh A, Gupta S, **Sachan M**. (2019) Epigenetic Biomarkers in the Management of Ovarian Cancer: Current Perspectives. **Front Cell Dev Biol**. Sep 19;7:182. doi: 10.3389/fcell.2019.00182.(**IF:6.7**)
- [14] Singh A, Gupta S, Badarukhiya JA, **Sachan M**. (2020) Detection of aberrant methylation of HOXA9 and HIC1 through multiplex MethyLight assay in serum DNA for the early detection of epithelial ovarian cancer. **Int J Cancer**. Sep 15;147(6):1740-1752. doi: 10.1002/ijc.32984.(**IF:7.4**)
- [15] Tripathi P, **Sachan M**, Nara S. (2020) Novel ssDNA Ligand Against Ovarian Cancer Biomarker CA125 With Promising Diagnostic Potential. **Front Chem**. May 15;8:400. doi: 10.3389/fchem.2020.00400.(**IF:5.5**)

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#### Publications in conferences:

1. Alka Singh, **Manisha Sachan** Aberrant promoter hypermethylation of HIC1 and SOX1 in circulating cell-free DNA as a potential biomarker for noninvasive early detection of ovarian cancer Sept 2021 **Cancer Research** Volume 81 Issue 13 Supplement Pages 480-480 Conference Publisher **American Association for Cancer Research**
2. Alka Singh, Jaydeep Aravindbhai Badarukhiya, Sameer Gupta, **Manisha Sachan** DNA methylation of SOX1 and HOXA9 as a biomarker for early detection of ovarian cancer in cell-free DNA June 2020 **CLINICAL CANCER RESEARCH** Volume 26 Issue 11 Pages 40-41 Conference Publisher **American Association for Cancer Research**
3. Alka Singh, **Manisha Sachan** HOXA9 and SOX1—a promising DNA methylation-based diagnostic biomarker for epithelial ovarian cancer Oct 2017 Canadian Journal of Biotechnology Volume 1 Issue Special Pages 66 Publisher **Science Planet Inc.**

#### Book:

1. Pamnani M and **Sachan M** 2014 DNA methylation during development in mammals ISBN: 978-3-659-48601-2, Lambert Academic Publishing Germany

## BOOK CHAPTERS PUBLISHED: 12

S. No.	Author(s)	Year	Book Title	Title of Chapter if any	Page No.		ISBN/ISS N No.	National / International	Publisher
					From	To			
1.	Agarwal V, Sachan M, Sirohi P	2013	Recent Progress in medicinal plants Vol 38	Book Chapter: Herbal product-based remedies against microbial infections and resistance	343	370	ISBN: 1-933699-98-1	International	Studium Press LLC
2.	Sinha P, Nara S and Sachan M	2014	Horizons in Cancer Research Vol 53	Book Chapter: Epigenetic regulation of cancer	169	190	ISBN: 978-1-63117-246-5	International	Nova Science Publisher, New York
3.	Malik S, Sachan M and Nara S	2015	Advances in Neurotherapeutic Delivery Technologies	Book Chapter: Nano-Strategies for Neuroimaging and Diagnostics	142	157	ISBN: 978-1-63278-036-2	International	Omics Group
4.	Rastogi M, Sinha P, Gupta S and Sachan M	2016	Recent Advances in Ovarian Cancer	Book Chapter: Protein, Methylated DNA and Micro RNA: Potential Candidates Towards Sustainable Ovarian CancerDiagnostics	28	59	ISBN: 978-81-932583-4-7	International	Avid Science, Germany
5.	Kumar V, Suhag M and Sachan M	2017	Horizons in Cancer Research Vol 67	Book Chapter: mi RNA as novel diagnostic and predictive biomarker in human cancer	1	50	ISBN:978-1-56311-058-6	International	Nova Science Publisher, New York
6.	Singh A and Sachan M	2017	Advances in Biotechnology Vol 1	Book Chapter 8: Cancer Epigenetics: Role of Epigenetic Events in the Onset and Progression of Cancer	1	31	978-93-87500-18-1	International	Open access ebook, WilmingtonDE
7.	Verma R K, Sachan, M, Vishwakarma, K, Upadhyay, N, Mishra R K, Tripathi D K, Sharma S	2018	Role of Rhizospheric Microbes in Soil: Volume 2: Nutrient Management and Crop Improvement,	Book Chapter: Role of PGPR in sustainable agriculture: Molecular approach toward disease suppression and growth promotion	259	290	978-981-13-0044-8	International	Springer, Singapore
8.	V Kumar, A Singh, P Gautam, M Sachan	2019	Biomedical Engineering and its Applications in Healthcare,	Book Chapter: Techniques/Tools to Study Epigenetic Biomarkers in Human Cancer Detection	327	351	978-981-13-3705-5	International	Springer, Singapore
9.	Bisht, D., Maddheshiya, S., Nara, S., & Sachan, M.	2023	Natural Products and Nano-Formulations in Cancer Chemoprevention	Book Chapter: Nano-Formulations of Chemotherapeutic Drugs: Recent Outlook, Advances, and Challenges in Cancer Management	143	163	978-100-33-6896-0	International	CRC Press
10.	Srivastava, A., Rai, S., Bisht, D., Sachan, M., Jit, B. P., & Srivastava, S.	2022	In Protein Kinase Inhibitors	Targeting the altered tyrosine kinases in colorectal cancer: From inhibitors to drugs.	361	391		International	Academic Press.
11.	Gupta S, Singh B, Gupta S and Sachan M	2023	Horizons in Cancer Research. Volume 85	The Landscape of Genetic and Epigenetic Biomarkers in Oral Cancer: A Liquid Biopsy Approach	151	190	979-88697-730-1	International	Nova Science Publisher, New York
12.	BishtD, Bhadra M, Sharma N, and Sachan M	2023	Epigenetics Human Disease 3e, Vol 1	Aberrant DNA Methylation Signatures in Gynaecological Malignancies: Implications for early diagnosis, prognosis, and therapy			In Production	International	Elsevier