


CURRICULUM VITAE-2020

Title	Prof./Dr./Ms.	First Name	Rita	Last Name	Singh	
Designation		Professor				
Address		Convener, Division of Molecular Endocrinology and Reproduction Department of Zoology, University of Delhi, Delhi –110007				
Residence		C 26, Delhi University, Delhi-110007				
Phone No. Office		91-11-27667985 extn. 312				
Mobile		8527820707				
Email		ritas@zoology.du.ac.in, ghrika_s@yahoo.com				

EDUCATIONAL QUALIFICATIONS

Degree	Institution	Year
Ph.D. (Hormone Biochemistry). Occurrence and role of Sulfation in Lutropin and Prolactin	University of Delhi	1990
PG, Specialization in Reproductive Biology	University of Delhi	1984
UG	Hindu college, University of Delhi	1982

CAREER PROFILE

Delhi University, Division of Molecular Endocrinology and Reproduction Department of Zoology	Professor	Jan 1, 2011	Teaching: M.Sc. Molecular Endocrinology, Cell Signaling, Protein Structure and Function, Computational Biology. Research: Cell regulatory mechanisms, Molecular defects in human PCOS and infertility, Proteomics based diagnostic tools.
	Associate Professor	May 7, 2006	
	Reader	May 7, 2003	
Delhi University, Dr. B. R. Ambedkar center for Biomedical Research (ACBR)	Lecturer	Jan 2002– May 2003	Teaching: Biochemistry, Receptors and Cell Signaling. Research: Molecular mechanisms of FSH regulation of Fertility.
All India Institute of Medical Sciences (AIIMS), Department of Biochemistry	Scientist	1999-2002	Teaching: M.Sc. / MD, and B.Sc. Nursing, B.Sc. Human Biology Biochemistry and Cell Biology, Research: Signaling involved in foeto-placental cross-talk.
Delhi University, Department of Biotechnology, South Campus	Lecturer	1990-1991	Post graduate Diploma in Biotechnology, Theoretical aspects of practical Immunology.

Post Doctoral Research Experience

Scientist (1997-1999) DST-SYS	Indian Institute of Science (I.I.Sc.), Bangalore Worked on “Interaction of SH3 domain of <i>Hck</i> and <i>Src</i> tyrosine Kinase with Guanylyl Cyclase C”
Post-doctoral Fellowship CSIR (1991-1997)	Centre for Cellular & Molecular Biology (CCMB), Hyderabad from June 1994-Sept 1996. Worked on “The identification of SH3 domain interaction protein in signal transduction”
Member, 9th Indian Antarctic expedition (1989-90)	Indian Institute of Integrative Medicine. Jammu, J & K from March 1992 – June 1994 Worked on “Post-Coital contraceptive anti-oestrogenic compounds” Funded by Department of Ocean Development, New Delhi, “The impact of Antarctic Environment on the Hormonal Profile & Immunity of Human Volunteers”

AREAS OF INTEREST / SPECIALIZATION

Molecular defects in Polycystic Ovary Syndrome (PCOS): Susceptibility Genes, Life Style and Environment. The major contribution is in deciphering the metabolic defects in the ovarian granulosa cells of women with polycystic ovary syndrome (PCOS), a major reproductive health issue in young women in India as well as in other countries. For the first time in the world, we reported the defective gene profiles highlighting the metabolic alterations in granulosa cells of PCOS women with and without insulin resistance. Genomic profiling brought out important susceptibility genes for insulin resistance and Diabetes type II in PCOS women. The data bank was created in NCBI and the work was published in the Journal of Clinical endocrinology and Metabolism (JCEM). Several laboratories have analyzed these data confirming the importance of our study. Further, we have also identified a novel signaling pathway of FSH which establishes its cross-talk with insulin signaling pathways. FSH increases the expression of Insulin receptor substrates (IRS-1 and IRS-2). FSH-stimulated IRS-2 expression is defective in PCOS granulosa cells. Consequently, we have established that the partial FSH sensitivity in PCOS women leads to the metabolic disorder and associated susceptibility to develop insulin resistance later in life.

We have organized a number of meetings with young girls to spread awareness about the management of hormonal imbalance to maintain the healthy metabolic profiles.

Cross-talk between Signaling pathways of Insulin/IGF-1 and FSH in Granulosa cells, and role of Insulin receptor substrates (IRS-1 and IRS-2) and Src family tyrosine kinases in follicle development.

Proteomics based Diagnostic tools: Analysis of human Plasma of Breast, Ovary and Lung cancer Patients for the diagnostic Biomarkers.

GENOMIC DATA OF PCOS GRANULOSA CELLS

1. HUMAN PCOS GENOME DATA BANK:

<http://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE34526>

(MICROARRAY DATA FOR NORMAL, INSULIN RESISTANT & NON-RESISTANT PCOS WOMEN) AT GENE EXPRESSION OMNIBUS (GEO:)

2. BIOINFORMATIC DATA BANK:

HUMAN IRS-2 PROMOTER AND TRANSCRIPTION FACTOR BINDING SITES

<http://dx.doi.org/10.1016/j.dib.2015.12.001>

RESEARCH GUIDANCE

Supervision of awarded Doctoral Thesis	10
Supervision of Doctoral Thesis, under progress	4
Supervision of awarded M. Phil dissertations	17
Ph. D Adviser	20
M.Sc. Summer projects	28 (Completed)
M.Sc. and M.Tech 4th Semester projects	8 (Completed)
B.Sc. Biomed./ B. Tech. (Engineering) Summer project	9 (Completed)
B. Tech. (Engineering) IV SEM Project	6 (Completed)

RESEARCH PROJECTS (MAJOR GRANTS/RESEARCH COLLABORATION)

RESEARCH PROJECTS: 18 (Major- 10 and Minor- 8, Total 17 as PI-Single institutional Grants)

Projects	International	National	Funding Agencies
No.	1 DBT (INDO-US)	17	DBT, DBT-INDO-US, CSIR, UGC, R&D-DU-UGC, DST-DU-PURSE, ICMR
Collaborations	Medical School, VCU, USA INRA-Centre Val de Loire, 37380 Nouzilly, Tours, France	AllIMS, Fortis Hospital, Gouri Hospitals, ICGEB, Rajiv Gandhi Cancer Institute.	

AWARDS AND DISTINCTIONS

LE STUDIUM Visiting Researcher award, from LE STUDIUM Scientific Council, LE STUDIUM Loire Valley Institute for Advanced Studies 1, rue Dupanloup- 45000 Orléans, France, **2020-2021**.

ICMR Research Grant 2020-2023, Project ID: 2020-3924 with title **Polycystic ovary syndrome: Impact of gonadotropin hormone imbalance.....**

Member, Committee for the **Ek Bharat Shreshth Bhatat (EBSB) initiative** of the University of Delhi and Ministry of Human Resource Development, India **2019-2020**.

Expert Member, Committee for recruitments and promotions in Ministry of environment, forest and climate change, New Delhi, **2019-2020**.

Expert Member, PRG 2016, Committee for Investigator-cum-Brainstorming meeting "Evaluation of prevalence, regional phenotypic variation, Co-morbidities, risk factors and the variations in response to different therapeutic modalities among Indian women with Polycystic ovary syndrome (PCOS): A multicenter study across India." Indian Council of Medical Research (ICMR), New Delhi, **2020**.

Prof. L. S. Ramaswami Memorial Award and Gold medal, in recognition of outstanding research in the area of Reproductive health/PCOS by Indian Society for Study of Reproduction and Fertility (ISSRF-2019), at JNU Convention Center, Jawaharlal Nehru University, New Delhi, Feb. 22-24, **2019**.

Chair, Division of Molecular Endocrinology & Reproduction, Department of Zoology, Delhi University, **2009 onwards**.

Provost, North eastern house for women, Delhi University, **2018 onwards**.

Governing Body Member, Keshav Mahavidyalaya, Delhi University, **2017-2019**.

Visiting Professor, INRA-Centre Val de Loire, 37380 Nouzilly, Tours, France, Real-Time Receptor and messenger interactions, From June 18-August 17, **2018**.

Academic Visitor and External Examiner for Ph.D. students, 5th Annual Graduate Scientific congress, Decoding Science: Translating Medicine, AGSC2015, **Yong Loo Lin School of Medicine, National University of Singapore (NUS)**, Jan 27-30, **2015**.

Visiting Professor (1 Year), Breast cancer stem Cells: Wnt 1 transgenic model of breast cancer. Department of Cancer Research, Perelman School of Medicine, **University of Pennsylvania, USA**, Aug, 2012- July 2013.

CREST Award, Department of Biotechnology (DBT), Ministry of Science and Technology, India, 2012.

Member, UNESCO South Asia and South East Asia Science and Technology Policy Forum, 2010.

Member, Faculty Promotion committee, Medical School, Virginia Commonwealth University, USA, 2008.

Visiting Scientist, Medical School, Virginia Common Wealth University, USA, DBT-INDO-US-CRHR Grant (2005-2008), June-July 2007.

Visiting Scientist, INDO-US project, Frontiers in Reproduction, 10th Annual Symposium Woods Hole Oceanographic Institution Clark Laboratory 507-Quissett Campus, **Woods Hole, Massachusetts, USA**, June 14-16, 2007.

Member, 9th Indo-US Contraception and Reproductive Health Research Meeting, New Delhi, Sept. 19-21, 2007.

Mentor, Star College Project on Reproductive Health and Incidence of PCOS in college girls, Department of Biochemistry, Daulat Ram College, Delhi University, 2016-2019.

Member, Examination Disciplinary Committee (EDC), Delhi University (North and South Campus) from 2013-2019 .

Principal investigator of 9 major projects from INDO-US DBT, CSIR, UGC from 2003-2019

Vice Chancellor Nominee, Departmental research Committee, Department of Biochemistry, Delhi University (South Campus)

Convener, Animal house and Member, Animal ethics Committee, Purchase committee and Several committees Department of Zoology, Delhi University 2014 onwards.

Member, Faculty of Science, Delhi University.

Adviser, Reproductive Biomedicine, Amity University, Noida, Haryana, 2017

Task-Force member, Indian Council of Medical research (ICMR), 2016

Member, Departmental Research Committee (DRC), Department of Zoology, 2016.

Member, Ethics Committee, Sunder Lal Jain Hospital, Ashok Vihar, Delhi. (2013-2016).

Council of Scientific and Industrial Research (CSIR) Pool-Scientist award, 1999.

DST young Scientist Award, 1997.

Scientist Member, 9th Indian Antarctic Expedition, Research project on human health in Antarctica, Nov. 1989-March 31, 1990.

OUTREACH PROGRAMS FOR YOUNG ADULTS: PCOD/PCOS AND ENVIRONMENT

Societal Science program on Environmental endocrine threats and health in villages adopted by University of Delhi, under Unnat Bharat Abhiyan. Training and interaction of students, PG course in molecular endocrinology and reproduction with People in 3 villages - Jagatpur, Mukundpur and Jharoda, India.

Reproductive Health Awareness for Senior School students of Birla Balika Vidyapeeth, Pilani, September 10 – 11, 2018.

Gynaecologist-Student interaction workshop on PCOS/PCOD management at young age, Auditorium, Department of Zoology, Delhi University, Aug. 12, 2016.

Reproductive Health Awareness for Senior School students of Birla Balika Vidyapeeth, Pilani, September 10 – 11, 2016.

Reproductive Health Awareness for University students in Four girl hostels in University Campus, by Master students specializing in Molecular Endocrinology and Reproduction, Jan-March 2016

Reproductive Health Awareness for Senior School students of G. D. Goenka Public School, Agra, Nov. 28, 2015.

International awareness program for "Environmental Threats to Fertility" during International congress on *Embryo Implantation and Pregnancy: Intricacies and strategies for its success*, National Institute of Immunology, March 9-11, 2015.

Daulat Ram College, Environmental causes of PCOS/PCOD: Management of Reproductive Health in young women, 7 Oct, 2015.

Miranda House: Endocrine Disruptors, Obesity and Infertility, Feb. 10, 2015.

Khalsa College: Cancer Stem Cells and Breast Cancer, Feb. 25, 2015.

Daulat Ram College, PCOS: Life Style, Obesity and Infertility, April 11, 2015.

Hazards of Plastics and Reproductive health, Delhi University Annual Festival, Antardhvani, 2014, 2015,

Free Camp on PCOS and hereditary Diabetes type II at Gouri Hospital, Malka Ganj, 2009.

MEMBERSHIP OF PROFESSIONAL/ACADEMIC BODIES, SOCIETIES

1. American Association for Cancer Research, USA.
2. American Society for Biochemistry and Molecular Biology (ASBMB), USA.
3. Federation for American Societies for Experimental Biology (FASEB), USA.
4. Indian Society for the Study of Reproduction and Fertility (ISSRF).
5. Society for Cell Biology, India.
6. Society for Biochemists of India.
7. Fertility Society of India.
8. Society for Reproductive Biology and Comparative Endocrinology.

CONFERENCE PRESENTATIONS/SPEECHES

INTERNATIONAL CONFERENCES

Invited Speaker, Elevated Follicle stimulating hormone in post-menopausal women and its impact on the pathogenesis of ovarian cancer, World Congress on Reproductive Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction at Shri Mata Vaishno Devi University, Katra, Jammu, J&K, Feb. 14 – 16, 2020.

Prof. L. S. Ramaswami Memorial Oration, 'Gonadotropin imbalance and Metabolic defects in Polycystic ovary syndrome' Global Conference on Reproductive Health with focus on Occupational, Environmental and Lifestyle Factors (ISSRF-2019), at JNU Convention Center, Jawaharlal Nehru University, New Delhi Feb. 22, 2019

Invited Speaker, Polycystic Ovary Syndrome (PCOS): Gonadotropin imbalance and Metabolic disorder, Biology and Bioinformatics of Signaling Systems, Physiologie de la Reproduction, INRA - Centre Val de Loire, 37380 Nouzilly, Tours, France, July 4, 2018.

Chairperson and Panelist, Selected topics in cancer awareness in India, World Cancer Congress 2018, Jaipur Feb. 3-5, 2018.

Invited Speaker, Novel FSH signaling mechanisms in PCOS, International Conference on Gonadotropins and Receptors 12th International Symposium on GnRH, The hypothalamic-pituitary-gonadal axis in cancer and reproduction, ICGR-IV, **Modena**,

Italy Sept 20-23, 2017.

Invited Speaker, *Environment, Lifestyle and Reproductive Health Challenges in Young Women*, International Conference on "Reproductive Health with Emphasis on strategies for infertility, assisted reproduction and Family Planning held at AIIMS, New Delhi, Jan 23-25, 2017.

Paper Presentation on *Role of FSH in Metabolic Disturbances in Polycystic Ovary Syndrome: a partial defect in FSHR (GPCR) activation in PCOS granulosa cells*, **41st European Symposium on Hormones and Cell Regulation: GPCR dynamics for fine tuning of physiological processes**, Monte Ste Odile, Alsace, **France**, Oct. 5-8, 2016

Invited Speaker, *Role of FSH in Metabolic Disturbances in Polycystic Ovary Syndrome*, **International congress on Reproductive Biomedicine, Royan institute, Tehran, Iran**, Aug 31-Sept. 2, 2016

Invited Speaker, *Molecular Defects in Polycystic Ovary Syndrome (PCOS) and Prediction of Infertility in PCOS Patients*, **International congress on Reproductive Biomedicine, Royan institute, Tehran, Iran**, Aug 31-Sept. 2, 2016

Invited Speaker, *Defects in the cross-talk between FSH and IGF-1/insulin signaling pathways and infertility in PCOS patients*, International Conference on "Reproductive Health with Emphasis on Occupational, Environmental and Lifestyle Factors held at **Ahmadabad**, 18 - 20 Feb. 2016

Invited Speaker, "Metabolic Disturbance in Polycystic Ovary Syndrome: Susceptibility Genes, Life Style and Environment", Department of Anatomy, **Yong Loo Lin School of Medicine (NUH), National University of Singapore (NUS)**, Jan 28, 2015.

Invited speaker, "Proteomic profiling of Lung Cancer Specific Plasma Proteins: Novel diagnostic strategy for environmentally exposed Male Lung Cancer Patients" **6th International conference on Environmental mutagens in Human Populations, Doha, Qatar**, Mar. 26-29, 2012.

Attended Symposium on Obesity, diabetes and cardiovascular Disease: concept and challenges at Translational Research Center, **University of Pennsylvania, Philadelphia, USA**, 2012.

Invited speaker, "PI3K/AKT dependent and independent pathways in the Regulation of Glycogenesis by Follicle Stimulating Hormone in Granulosa Cells" **International Conference on Reproductive Health with Emphasis on Strategies for Family Planning ICMR, New Delhi**, Feb. 19 -21, 2012.

Invited speaker, "The susceptibility gene expression profiles in Granulosa cells of Women with Polycystic Ovary Syndrome" **15th All India Congress of Cytology and Genetics and Forgarty International workshop**, Magadh University, Bodhgaya, India, Nov. 21 -23, 2011.

Invited speaker, *Microarray gene expression profile of granulosa cells from PCOS women: Identification of Polycystic Ovary Syndrome Susceptibility Gene Sets through Network Analysis*. **International Conference on Frontiers in Reproductive Technology, NDRI, Karnal**, Feb 9-11, 2011.

Invited Speaker, "Reproductive Health Concerns: The impact of Environmental Toxicants on Reproductive health of women/men". World conclave of Scientists on Regional Co-operation in Science and Technology. Organized by **UNESCO South Asia and South East Asia Science and Technology Policy Forum** at INSA Auditorium, Nov. 26-29, 2010.

Invited Speaker, "Molecular Mechanisms to Molecular Medicine, Identification of Polycystic Ovary Syndrome Susceptibility Gene Sets through Network Analysis". International symposium on **Endocrinology and Reproduction: SRBC JNU**, New Delhi, Feb. 4-6 2010.

NATIONAL CONFERENCES (INVITED SPEAKER):

Webinar on *Covid-19 Pandemic: Susceptibility and Prevention*, organized by Swami Shradhanad College, University of Delhi, **Delhi, May 21, 2020**.

Environmental threats to Reproductive Health: Increasing PCOS/PCOD in young women in India. International Conference on Changing Environment: Understanding the Emerging Challenges and their Management Strategies With Pre-conference Workshop "**The Foldscope**" Venue: Conference Centre, University of Delhi, April 11-12, 2019.

Environmental Toxins and Environmental toxins and Health "How Plastics cause hormonal imbalance in Children; & Chairperson, National Seminar on Reproductive Health Awareness for Senior School students of Birla Balika Vidyapeeth, BITS Campus, Pilani, Rajasthan, Sept. 15 – 16, 2018.

Human ethics committee considerations for research on human subjects, **Acharya Narendra Dev College**, University of Delhi, Govind Puri, Kalkaji, New Delhi, Delhi 110019, February 21, 2018.

Plenary Lecture, *Molecular defects in Human PCOS Ovary*, 2nd JK Medical Science Congress 2017 1st Annual Conference of M P PCOS Society, Srinagar, J&K, May 10-13, 2017.

Metabolic defects in Granulosa cells of PCOS Women, 2nd JK Medical Science Congress 2017 1st Annual Conference of M P PCOS Society, Srinagar, J&K, May 10-13, 2017.

Environmental Pollutants and Health Hazards, Speaker and Organizer, National Symposium & Awareness Program on "Lifestyle and Reproductive Health Challenges, Daulat Ram College, Delhi University, Delhi, March 29, 2017.

Polycystic ovary syndrome (PCOS): Is it a genetic or environmental disorder? National Symposium of communicable and non-communicable disorders, Punjab University, Chandigarh Feb 21, 2017.

Invited member, "Global Biotechnology Summit" on 5th & 6th February 2016 organized by Department of Biotechnology, Ministry of Science and Technology, at Vigyan Bhawan, New Delhi.

Endocrine Disruptors, PCOS and Reproductive Health: "Hazards of Plastics" & Chairperson, National Seminar on Reproductive Health Awareness for Senior School students of Birla Balika Vidyapeeth, BITS Campus, **Pilani, Rajasthan, Sept. 10 – 11, 2016.**

Endocrine Disruptors & Reproductive Health, 2nd National Seminar on Reproductive Health Awareness for Senior School students of G. D. Goenka Public School, **Agra. 28 Nov, 2015**

Environmental causes of PCOS/PCOD: Management of Reproductive Health and Fertility in young women Conference on Reproductive Health Challenges: Issues & Remedies (**NCRHC-2015**), **Jaipur, Sept. 11-13, 2015.**

"Metabolic Defects in Polycystic Ovary Syndrome: Susceptibility Genes and Infertility", Sixth Symposium on "**Frontiers in Molecular Medicine**", Organized by Special Centre for Molecular Medicine, Jawaharlal Nehru University (JNU), **New Delhi, Feb. 13-14, 2015.**

"*Molecular defects in Polycystic Ovary Syndrome: Susceptibility Genes, Life Style and Environment*" National Symposium on changing environment and lifestyle: Impact on Reproductive Health (NSCEL-2013), **All India Institute of Medical Sciences (AIIMS), New Delhi, Nov 19-21, 2013.**

"*Expression of Diabetes susceptibility genes in Granulosa Cells of Polycystic Ovary Syndrome (PCOS) Women with and without Insulin Resistance*", 7th Annual National Conference of **Indian Fertility Society**: Infertility and Assisted Reproductive Technologies, India Habitat Centre, New Delhi, Dec 17-18, 2011.

RESOURCE PERSON, TEACHER TRAINING LECTURES IN OTHER UNIVERSITIES

Academic Staff College, University of Kashmir, J&K 2015, Lecture 1. "Environmental Endocrine Disruption: Management of Reproductive Health and Infertility", Refresher course for University and College teachers, May 14, 2015; Lecture 2. "Molecular aspects of Polycystic Ovary Syndrome: Causes, Diagnosis and Prevention", Refresher course for University and College teachers, May 15, 2015.

Botany Department, University of Delhi, "Current Trends in Environmental Neuroendocrine Disruptors, Obesity and Infertility", Refresher Course for University teachers, Dec 11, 2014.

Ambedkar Centre for Biomedical Research (ACBR) Microarray: High-Throughput analysis of Gene Expression, 3rd workshop on "Bioinformatics and Molecular Modeling in Drug Design", at Bioinformatics Facility (DBT), 2012.

Punjab University, Chandigarh 2011, Proteomics in cancer Biomarker Discovery, Lecture 2. Microarray and bioinformatics approaches to find Susceptibility Gene Sets through Network Analysis, Refresher course in Life Sciences, May 15, 2011.

Kumaun University, Nainital, UP 2011, Bioinformatics resources in Genomics and Proteomics, "Bioinformatics and its applications in Drug Designing" training Program, at Bioinformatics Infrastructure Facility, Department of Biotechnology, March 22-23, 2011.

CPDHE/UGC-ASC refresher course in Life Sciences, Delhi University, "Reproductive health Concerns: The Impact of Environmental Toxicants/ Endocrine disruptors on Reproductive Health, at "Current Trends in Life Sciences: The Indian Scenario", Feb 23, 2011.

Moderator: Vimersh, Delhi University; **Reviewer**, ILL - Delhi University. 2007-2011.

Various competitions at the College level, 2007-2011, University Science Quest, CSEC, Delhi University, 2007-2012.

Nodal Officer, Antardhvani, 2015. **SAC invited member**, Talwar Foundation.

Adviser, Molecular Mechanisms to Molecular Medicine, SRBC, JNU. Adviser, International symposium on Endocrinology and Reproduction, Member adviser, International conference at AIIMS.

Reviewer: Molecular and Cellular Endocrinology, Biology of Reproduction, Reproductive Biology, Indian Journal of Clinical Biochemistry, Journal of Reproductive Immunology-Elsevier Publication, Indian Journal of Experimental Biology, Journal of

SELECTED PUBLICATIONS (>30 peer reviewed, 2 chapters in Books)

1. **Minhas V, Kumar R, Moitra T, Singh R, Panda AK, Gupta SK.** Immunogenicity and contraceptive efficacy of recombinant fusion protein encompassing Sp17 spermatozoa specific protein and GnRH: Relevance of adjuvants and micro-particles based delivery to minimize number of injections" **American Journal of Reproductive Immunology**, 83(4):e13218. doi: 10.1111/aji.13218. **2019.**
2. V Minhas, A Shrestha, N Wadhwa, **Rita Singh**, SK Gupta. Novel Sperm and Gonadotropin-releasing Hormone-based Recombinant Fusion Protein: Achievement of 100% Contraceptive Efficacy by Co-immunization of Male and Female Mice. **Mol. Reprod. Dev.** 83, 1048-1059, **2016.**
3. Anjali G., S. Kaur, R. Lakra, J. Taneja, G.S. Kalsey, A. Nagendra, T.G. Shrivastav, M. Gouri Devi, N. Malhotra, A. Kriplani and **Rita Singh**, *FSH stimulates IRS-2 expression in human granulosa cells through cAMP/SP1, an inoperative FSH action in PCOS patients*, **Cellular Signalling**, **27**, 2452-2466, **2015.**
4. S. Kaur, G. Anjali, P. Bhardwaj, J. Taneja and **Rita Singh**, *Data in support of FSH induction of IRS-2 in human granulosa cells: Mapping the transcription factor binding sites in human IRS-2 promoter*, **Data in Brief**, 6 162–167, **2015.**
5. S. Kaur, K.J. Archer, M. Gouri Devi, A. Kriplani, J.F. Strauss III, and **Rita Singh**, *Differential Gene Expression in Granulosa Cells from Polycystic Ovary Syndrome Patients with and without Insulin Resistance: Identification of Susceptibility Gene Sets through Network Analysis* **J Clin Endocrinol Metab. (JCEM)** 97, E2016-21, **2012.**
6. **Rita Singh**, Priya Bhardwaj and Shikha Sagar, *Polycystic ovary syndrome: Is it a consequence of endocrine disruption by BPA?* Newsletter of Indian Society for the Study of Reproduction and Fertility (ISSRF) on Environmental Impacts on Reproductive Health, Review, **ISSRF News Letter (ISSN 2395-2806)**, 85-88, **2016.**
7. **Rita Singh** "Polycystic Ovary Syndrome: Susceptibility Genes, Life Style and Environment" Newsletter of Indian Society for the Study of Reproduction and Fertility (ISSRF) on Challenges of Reproductive Health due to Influence of Changing Environment & Lifestyle, Review, **ISSRF News Letter (ISSN 2395-2806)**, 27-29, **2014.**
8. T.G. Shrivastav, K.P. Kariya, **Rita Singh**, et al., *Influence of different length linker containing DHEA-7-CMO-enzyme conjugates on sensitivity and specificity of DHEA-3-HS-antibody.* **J Immuno-assay and Immunochem.** 33: 1-17, **2012.**
9. **Rita Singh** and M. Gouri Devi, *The Susceptibility gene expression profiles in granulosa cells of women with Polycystic Ovary syndrome*, **Perspectives in Cytology and Genetics**, XV 2011, 211-214, **2011.**
10. T.G. Shrivastav, S.K. Chaube, K.P. Kariya, K. Rangari, **Rita Singh**, *Development of an antigen heterologous enzyme linked immunosorbent assay for Measurement of corticosterone in rat serum.* **J Immunoassay and Immunochem.** 31: 4, 244-257, **2011.**
11. T.G. Shrivastav, S.K. Chaube, K.P. Kariya, P. Kumari, **Rita Singh**, and D. Kumar, *Influence of Different homologous and heterologous combinations of antibodies and Enzyme conjugates of Dehydroepiandrosterone on the Sensitivity and Specificity of DHEA ELISA.* **J Immuno-assay and Immunochem.** 32: 114-127, **2011.**
12. T.G. Shrivastav, S.K. Chaube, K.P. Kariya, **Rita Singh**, et al., *Influence of different length linker containing DHEA-7-CMO-enzyme conjugates on sensitivity and specificity of DHEA-17-CMO-antibody.* **J Immunoassay and Immunochem.** 32: 2, 269-283, **2011.**
13. T.G. Shrivastav, S.K. Chaube, K.P. Kariya, D. Kumar, and **Rita Singh**, *Antigen Heterologous Enzyme Linked Immunosorbent Assay for Measurement of DHEA in Serum.* **J Immuno-assay and Immunochem.** 32: 2, 326-341, **2011.**
14. **Rita Singh**, "Reproductive Health Concerns: The impact of Environmental Toxicants on Reproductive health of women/men". Proceedings of World conclave of Scientists: on Regional Co-operation in Science and Technology: Opportunities and Challenges in the context of Globalization. **UNESCO South Asia and South East Asia Science and Technology Policy Forum at INSA**, New Delhi, **Book edited by Mohsin U Khan** (website: www. Zaheerfoundation.com), published

- by CSIR National Institute of Science communication and Information Resources, New Delhi, 61-74, **2010**.
15. T.G. Shrivastav, S.K. Chaube, Charu, K. Rangari, K.P. Kariya, **Rita Singh**, *Enzyme linked immunosorbent assay for milk progesterone*. **J Immunoassay and Immunochem.** 31: 4, 301-313, **2010**.
 16. T. G. Shrivastav, S. K. Chaube, K. P. Kariya, S. Bhanot, **Rita Singh**. *Development of heterologous Enzyme linked immunosorbent assay for Dehydroepiandrosterone in serum*. **J Immunoassay and Immunochem.** 31: 4, 266-278, **2010**.
 17. **Rita Singh** and M. Gouri Devi, *Role of LH in the etiology of PCOS: Intra-ovarian defect in human polycystic Ovary Syndrome patients without peripheral Insulin resistance*. **Chapter 31**, pg. 355-365, in **Book entitled Gonadal and Nongonadal Actions of Gonadotropins**, Nervosa publishing house Pvt Ltd. (ISBN 978-81-7319-983-7), no. 355-365, **2009**.
 18. **Rita Singh**, *Biotechnology Chakravayuha: Biotechnology education in India* **Current Science** 93 (7) 889, **2007**.
 19. **Rita Singh**, *Trophoblast Differentiation: Towards understanding the regulatory mechanisms*. Department of Biochemistry, AIIMS, New Delhi. Review, **Proceedings of Indian National Academy of Sciences (PINSIA)** B68 No 6 pp 547-558, **2002**.
 20. **Rita Singh**, *The impact of Antarctic environment on the reproductive physiology and immune system*. **IX Antarctic Expedition: Technical Publication** No. 6, 269-273, DOD, **1994**.
 21. J. Taneja, and **Rita Singh**, *Regulation of Insulin receptor and its substrates by Follicle Stimulating Hormone in Granulosa cells*. **Reproduction, Fertility and Development** 20 (Supplement) 86-86, **2008**.
 22. **Rita Singh**, *Interaction of Guanylyl Cyclase C with the SH3 domain of Src tyrosine kinase, Yet another mechanism for desensitization*. **J. Biol. Chem.** **278**, 24342-24349, **2003**.
 23. M.J. Hossain, R. Korde, P.K. Singh, S. Kanodia, R. Ranjan, G. Ram, G.S. Kalsey, **Rita Singh** and P. Malhotra, *Plasmodium falciparum Tudor staphylococcal Nuclease interacting proteins suggest its role in nuclear as well as splicing processes*. **Gene** 468, 48-57, **2010**.
 24. R. Korde, A. Bhardwaj, **Rita Singh**, A. Srivastava, V.S. Chauhan, R.K. Bhatnagar and P. Malhotra, *A pro-domain Peptide of Plasmodium falciparum cysteine protease (falcipain-2) inhibits malaria parasite development*. **Journal Medicinal Chemistry** 51, 3116-3123, **2008**.
 25. Shivakrupa, **Rita Singh**, G. Swarup, *Identification of a Novel Splice Variant of C3G which shows Tissue Specific Expression*. **DNA and Cell Biology** 18: 701-708, **1999**.
 26. **Rita Singh**, *Antifertility potential of 2-[piperidinoethoxy phenyl]-3-[4-methoxy phenyl]-2H benzo pyran: a potent antioestrogenic compound in rats*. **J Reproduction & Fertility** 106:49-53, **1996**.
 27. **Rita Kohli/Singh**, N. Chadha and K. Muralidhar *Are sheep and buffalo prolactins sulfated?* **Biochem Biophys Res Commun (BBRC)**. 149:515-522, **1987**.
 28. **Rita Kohli/Singh**, N. Chadha and K. Muralidhar *Presence of tyrosine-o-sulfate in sheep pituitary prolactin*. **FEBS Letters**, 242:139-143, **1988**.
 29. N. Chadha, **Rita Kohli/Singh**, G.L. Kumari and K. Muralidhar *Physico-chemical characterisation of buffalo prolactin*. **Mol. Cell Biochem.** 105:61-71, **1991**.
 30. **Rita Kohli/Singh** and K. Muralidhar *Effect of Gn-RH on sulfation on lutropin: A potential bioassay for Gn-RH*. **Endocrinol. Jap. (ISSN: 0013-7219)** 37 (1):31-41, **1990**.
 31. K. Muralidhar, N. Chadha and **Rita Kohli/Singh**, *Purification and characterization of prolactin from sheep and buffalo pituitaries*. **J. Bioscience**, 13:201-214, **1988**.
 32. **Rita Kohli/Singh**, N. Chadha and K. Muralidhar *Does sulfate incorporation into pituitary proteins have any physiological significance?* In: *Neuroendocrine Regulation in Fertility Control*" (Eds. Vinod Singh and K. Muralidhar). **Biotechnology Series Vol. 1**, NEHU Publication, Shillong, **1989**.
 33. N. Chadha, **Rita Kohli/Singh** and K. Muralidhar *Use of the discarded "acid pellet" for the purification of prolactin from sheep and buffalo pituitaries*. **IRCH Medical Science Research (Biochemistry)**. 15:711-71, **1987**.
 34. N. Chadha, **Rita Kohli/Singh**, K. Muralidhar *The effect of hypothyroid status on rat ovarian response to PMSG*. **J.**

