

Curriculum Vitae

Rajesh Dabur

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Professor,

Department of Biochemistry,

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Positionas Held

Professor: Department of Biochemistry, MD University Rohtak-HR. April 16, 2015 onward

Associate professor: Department of Biochemistry, MD University Rohtak-HR. April 16, 2012-April 15, 2015.

Assitant Director: NRIBAS, CCRAS, Department of AYUSH, Pune, MH. 06/03/08-15/04/12.

Research Officer: NRIBAS, CCRAS, Department of AYUSH, Pune, MH. 01/01/06-06/03/08

Assistant Professor: Biomedical Sciences, BU, Jhansi-284128. 06/08/2003-01/06/2006.

Post Doctorate Fellow: HIM, Harvard, Boston, MA, US. 02115. 02/01/2001-03/08/2003.

PhD: Institute of Genomics and integrative Biology, Mall Road, DU Campus, Delhi

Awards:

- 1. Best Scientist Award:** Central Council of Research in Ayurveda, Department of AYUSH. Year-2009.
- 2. Prof. M. L. Khorana Memorial Prize:** Best paper in the field of Pharmacology & Clinical Pharmacy. By Indian Pharmaceutical Associateion (IPA). June 5, 2015.

Patents Granted:

- 1) Rajesh, GL Sharma and M Ali (2001).** A novel antifungal molecule characterized from *D. metel*. **European patent**, Granted: 02718466.2-2101-IB0201207.
- 2) Rajesh, GL Sharma and M Ali (2001).** A novel antifungal molecule 2-(3, 4-dimethyl-2, 5-dihydro-1h-pyrrol-2-yl)-1-methylethyl pentanoate. **Indian Patent** 28-09-01 (Indian Patent NF 343/NF/2001).
- 3) Sharma, GaindaLal; Dabur, Rajesh; Ali, Mohammad. 2002.** Antifungal molecule 2-(3,4-dimethyl-2,5-dihydro-1h-pyrrol-2-yl)-1-methylethyl pentanoate. **United States Patent 6713504**; (30-3-2004).
- 4) Sharma GL, Rajesh, Ali M (2008).** ANTIFUNGAL MOLECULE 2-(3,4-dimethyl-2,5-dihydro-1h-pyrrol-2-yl)-1-METHYLETHYL PENTANOATE. (**European Patent** Office; 1487791; (2-7-2008).
- 5) Sharma GL, Rajesh, Ali M (2007).** A PROCESS FOR ISOLATION OF NOVEL ANTIFUNGAL LEAD MOLECULE. (**Russian Federation**; 2294923; (10-3-2007).
- 6) Sharma GL, Rajesh, Ali M (2008).** ANTIFUNGAL MOLECULE 2-(3,4-dimethyl-2,5-dihydro-1h-pyrrol-2-yl)-1-METHYLETHYL PENTANOATE. (**Canada**; 2420952; (23-9-2008).
- 7) Sharma GL, Rajesh, Ali M (2005).** A process for isolation of novel antifungal lead molecule. (India; 193290; (23-12-2005).

Papers Published:

1. Amey Shirolkar, Sutapa Chakarborty, TK Mandal, Rajesh Dabur. Unbiased plasma metabolomics reveal the correlation of metabolic pathways and constitutional types of human (prakrities). 2017. Journal of Ayurveda and Integrative Medicine (In Press)
2. Rajesh Dabur. Identification of molecular pathways affected by treatment with heartwood water extract of *Pterocarpus marsupium* in MCF 7 cancer cell line. 2017. Herbal Medicine. <http://doi.org/10.1016/j.hermed.2017.04.001>.
3. Gupta, P., Bala, M., Gupta, S., Dua, A.^a, Dabur, R.^b, Injeti, E., Mittal, A. Efficacy and risk profile of anti-diabetic therapies: Conventional vs traditional drugs—A mechanistic revisit to understand their mode of action. 2016, Pharmacological Research, 113, pp. 636-674
4. Amey Shirolkar, Rajesh Dabur. Administration of Fresh Juice of *Tinospora cordifolia* Decreases Levels of Urinary Markers of Peroxisome Proliferator-Activated Receptors in Hyperlipidemic Patients. Ind J Pharma Edu Res. 2016, 50,
5. Amey Shirolkar, Bhawana Sharma, Suman Lata, Rajesh Dabur. Guduchi Sawras (*Tinospora cordifolia*): An Ayurvedic drug treatment modulates the impaired lipid metabolism in alcoholics through dopaminergic neurotransmission and anti-oxidant defense system. Biomedicine & Pharmacotherapy. 2016. **83**, 1265–1277.
6. Phougat, N., Chhillar, A.K., Prasad, A.K., Srivastava, S., Dabur, R. Coumarin derivatives as adjuvants: From in silico physicochemical characterization to in vitro evaluation against gram positive bacteria 2016. Combinatorial Chemistry and High Throughput Screening 19 (6), pp. 489-496
7. Dabur, R., Mittal, A. Detection and qualitative analysis of fatty acid amides in the urine of alcoholics using HPLC-QTOF-MS. 2016 Alcohol 52, pp. 71-78
8. Bhosale, Jitendra, Umesh Fegade, Banashree Bondhopadhyay, Simanpreet Kaur, Narinder Singh, Anupam Basu, **Rajesh Dabur**, Ratnamala Bendre, and Anil Kuwar. "Pyrrole coupled salicylimine based fluorescence "turn on" probe for highly selective recognition of Zn²⁺ ions in mixed aqueous media: Application in living cell imaging." Journal of Molecular Recognition (2015), 28, 369-375
9. Dutt Vikas, Gupta Snjeev, **Dabur Rajesh**, Injeti Elisha and Mittal Ashwani. Skeletal muscle atrophy: Potential therapeutic agents and their mechanisms of action. Pharmacological Research (2015), 99: 86–100.
10. Kumari, Suman, Preeti Jain, Bhawana Sharma, Preeti Kadyan, and **Rajesh Dabur**. "In Vitro Antifungal Activity and Probable Fungicidal Mechanism of Aqueous Extract of *Barleria Grandiflora*." **Applied Biochemistry and Biotechnology** (2015): 1-14. DOI: 10.1007/s12010-015-1527-0
11. Mittal, Ashwani, and **Rajesh Dabur**. Detection of New Human Metabolic Urinary Markers in Chronic Alcoholism and Their Reversal by Aqueous Extract of *Tinospora cordifolia* Stem. **Alcohol and Alcoholism** (2015): 50(3):271-81
12. Sharma, B., Dabur, R. Protective effects of *Tinospora cordifolia* on hepatic and gastrointestinal toxicity induced by chronic and moderate alcoholism. 2015 Alcohol and Alcoholism 51 (1), pp. 1-10.
13. Gahlaut, A., **Dabur, R.** Proteomic analysis of *Escherichia coli* in response to catechins rich fraction (2014) **International Journal of Pharmacy and Pharmaceutical Sciences**, 6 (1), pp. 784-787.
14. Phougat, N., Khatri, S., Singh, A., Dangi, M., Kumar, M., **Dabur, R.**, Chhillar, A.K. Combination therapy: The propitious rationale for drug development (2014) **Combinatorial Chemistry and High Throughput Screening**, 17 (1), pp. 53-67.
15. Singh, Seema, **Rajesh Dabur**, Madhumanjiri M. Gatne, Bharat Singh, Shilpi Gupta, Sharad Pawar, Sunil K. Sharma, and Gainda L. Sharma. "In Vivo Efficacy of a Synthetic Coumarin Derivative in a Murine Model of Aspergillosis." **PloS one** 9, no. 8 (2014): e103039.
16. Mittal, A., Kadyan, P., Gahlaut, A., Dabur, R. Nontargeted identification of the phenolic and other compounds of *Saraca asoca* by high performance liquid chromatography-

positive electrospray ionization and quadrupole time-of-flight mass spectrometry . ISRN Pharm. 2013 pp. 11.

17. Bhosale, J.D., Shirolkar, A.R., Pete, U.D., Zade, C.M., Mahajan, D.P., Hadole, C.D., Pawar, S.D., Patil, U.D., **Dabur, R.**, Bendre, R.S. Synthesis, characterization and biological activities of novel substituted formazans of 3,4-dimethyl-1Hpyrrole-2-carbohydrazide derivatives (2013) *Journal of Pharmacy Research*, 7 (7), pp. 582-587.
18. Gahlaut, A., **Dabur, R.**, Chhillar, A.K. Anti-Aspergillus activity of selected medicinal plants (2013) **Journal of Pharmacy Research**, 6 (4), pp. 419-422.
19. Gahlaut, A., Gothwal, A., Hooda, V., **Dabur, R.** RAPD patterns of some important medicinal plants and their substitutes used in Ayurveda to identify the genetic variations (2013) **International Journal of Pharmacy and Pharmaceutical Sciences**, 5 (1), pp. 239-241.
20. Gahlaut, A., Sharma, A., Shirolkar, A., **Dabur, R.** Non-targeted identification of compounds from regenerated bark of terminalia tomentosa by HPLC- (+) ESI-QTOFMS (2013) **Journal of Pharmacy Research**, 6 (4), pp. 415-418.
21. Gahlaut, A., Shirolkar, A., Hooda, V., **Dabur, R.** A rapid and simple approach to discriminate various extracts of saraca asoca [Roxb.], De. Wild using UPLC-QTOFMS and multivariate analysis (2013) **Journal of Pharmacy Research**, 7 (2), pp. 143-149. Cited 5 times.
22. Gahlaut, A., Shirolkar, A., Hooda, V., **Dabur, R.** β -Sitosterol in different parts of Saraca asoca and herbal drug ashokarista: Quali-quantitative analysis by liquid chromatography-mass spectrometry (2013) **Journal of Advanced Pharmaceutical Technology and Research**, 4 (3), pp. 146-150.
23. Gahlaut, A., Vikas, Dahiya, M., Gothwal, A., Kulharia, M., Chhillar, A.K., Hooda, V., **Dabur, R.** Proteomics & metabolomics: Mapping biochemical regulations (2013) **Drug Invention Today**, 5 (4), pp. 321-326.
24. Mittal, A., Gahlaut, A., Sharma, G.L., **Dabur, R.** Antifungal treatments delineate a correlation between cathepsins and cytokines in murine model of invasive aspergillosis (2013) **Indian Journal of Pharmaceutical Sciences**, 75 (6), pp. 688-699.
25. Shirolkar, A., Gahlaut, A., Chhillar, A.K., **Dabur, R.** Quantitative analysis of catechins in Saraca asoca and correlation with antimicrobial activity (2013) **Journal of Pharmaceutical Analysis**, 3 (6), pp. 421-428.
26. Shirolkar, A., Gahlaut, A., Hooda, V., **Dabur, R.** Phytochemical composition changes in untreated stem juice of tinospora cordifolia (W) Mier during refrigerated storage (2013) **Journal of Pharmacy Research**, 7 (1), pp. 1-6.
27. Gahlaut, A., Gothwal, A., **Dabur, R.** TLC based analysis of allelopathic effects on tinosporoside contents in Tinospora cordifolia (2012) **Journal of Chemical and Pharmaceutical Research**, 4 (6), pp. 3082-3088. Cited 6 times.
28. Gahlaut, A., Pawar, S.D., Mandal, T.K., **Dabur, R.** Biochemical analysis of lithiasis patients and treatment study using Bryophyllum pinnatum salisb (2012) **International Journal of Pharmacy and Pharmaceutical Sciences**, 4 (4), pp. 505-507.
29. Gahlaut, A., Taneja, P., Shirolkar, A., Nale, A., Hooda, V., **Dabur, R.** Principal component and partial least square discriminant based analysis of methanol extracts of bark and re-generated bark of Saraca Asoca(2012) **International Journal of Pharmacy and Pharmaceutical Sciences**, 4 (4), pp. 331-335.
30. Mittal, A., Mandal, T.K., Bindal, R., Dabur, R Cathepsin B is a negative regulator in pulmonary aspergillosis **Int J Biosci Biochem Bioinforma** 2011. 1, pp. 125-130
31. Bhosale, J.D., Khond, M., Mandal, T.K., Bendre, R.S., **Dabur, R.** Identification and characterization of two novel antimicrobial compounds from *jasminum grandiflorum* L. (2011) **World Applied Sciences Journal**, 13 (1), pp. 47-51.
32. **Dabur R**, Mandal TK, Gurav AM, Tasleem Arif, Singh DD. Bajpai V, Chandra K. (2009). Antibacterial and Antifungal Potential of two *Blumea* species used in folkloric medicine. **Journal of Drug Research in Ayurveda and Siddha**. Vol: XXX (3-4), 77-82.
33. Mangesh Khond, **J.D. Bhosale**, Tasleem Arif, T.K. Mandal, M.M. Padhi and Rajesh Dabur. Screening of Some Selected Medicinal Plants Extracts for *In-vitro* Antimicrobial Activity. **Middle-East Journal of Scientific Research** 4 (4): 271-278, 2009.

34. Rajesh Dabur, **J. D. Bhosale**, Mangesh Khond, TK Mandal, MM Padhi. Identification and characterization of two new antimicrobial compounds from *Jasminum grandiflorum*. **Middle-East Journal of Scientific Research**. 2011. 13, 47-51.
35. **Tasleem Arif**, JD Bhosale, Naresh Kumar, TK Mandal, RS Bendre, GS Lavekar, Rajesh Dabur, (2009). Natural Products- Anti-Fungal Agents Derived from Plants. Asian Journal of Natural Product and Research. **Journal of Asian Natural Products Research**. Vol. 11 (7), 621-638.
36. **Tasleem Arif**, T.K. Mandal, Naresh Kumar, J.D. Bhosale, Archana Hole, G.L. Sharma, M.M. Padhi, G.S. Lavekar, Rajesh Dabur, (2009). *In vitro* and *in vivo* antimicrobial activities of seeds of *Caesalpinia bonduc* (Lin.) Roxb. **Journal of Ethanopharmacology** 123, 177–180.
37. Piyush Bihari Lal, Naresh Kumar, **Tasleem Arif**, Akhilesh K. Verma, Sharma GL, Rajesh Dabur. (2008). In vitro anti-bacterial activity of a novel isoquinoline derivative and its post antibacterial effects on *Pseudomonas aeruginosa*. **African Journal of Microbiology**. 2: 126-130.
38. **Dabur R**, Mandal TK, Gurav AM, Singh DD. Bajpai V, GS Lavekar. (2007). Antibacterial and Antifungal Potential of some Indian medicinal plants **Afr J Trad CAM**. 4(3):319-322.
39. **Dabur R**, Mandal TK, Sharma GL (2007). Post antifungal effects of antifungal compound 2-(3,4-dimethyl-2,5-dihydro-1H-pyrrol-2-yl)-1-methylethyl pentanoate. **J Med Microbiol**. 56: 815-818.
40. Gupta, J; Chattopadhaya, D; Bhadoria, D P; Pasha, MAQ; Gupta, Vijay; Kumar, M; **Dabur, R**; Yadav, V; Sharma, GL (2007). T-lymphocyte subset profile and serum alpha-1-antitrypsin in pathogenesis of chronic obstructive pulmonary disease. **Clinical and Experimental Immunology**. 149(3):463-9.
41. V. Yadav, R Mandhan, Q Pasha, S. Pasha, A Katyal, AK Chhillar, J Gupta, **R Dabur** and GL Sharma (2007). Isolation and characterization of an antifungal protein from *Escherichia coli*. **J. Med Microbiol**. 56: 637-644.
42. Chhillar AK, Arya P, Mukherjee C, Kumar P, Yadav Y, Sharma AK, Yadav V, Gupta J, **Dabur R**, Jha HN, Watterson AC, Parmar VS, Prasad AK, Sharma GL. Microwave-assisted synthesis of antimicrobial dihydropyridines and tetrahydropyrimidin-2-ones: novel compounds against aspergillosis. **Bioorg Med Chem**. 2006 Feb 15; 14(4):973-81. Epub 2005 Oct 7. PMID: 16214352 [PubMed - indexed for MEDLINE].
43. Tiwari RK, Singh D, Singh J, Yadav V, Pathak AK, **Dabur R**, Chhillar AK, Singh R, Sharma GL, Chandra R, Verma AK. Synthesis and antibacterial activity of substituted 1,2,3,4-tetrahydropyrazino[1,2-a] indoles. **Bioorg Med Chem Lett**. 2006 Jan 15; 16(2):413-6. Epub 2005 Oct 21. PMID: 16246547 [PubMed - indexed for MEDLINE].
44. Ashok K. Prasad, Vineet Kumar, Pragya Arya, Sarvesh Kumar, **Rajesh Dabur**, Naresh Singh, Anil K. Chhillar, Gaiinda L. Sharma, Balaram Ghosh, Jesper Wengel, Carl E. Olsen, and Virinder S. Parmar. Investigations toward new lead compounds from medicinally important plants. **Pure Appl. Chem**. 77(1), 25-40, 2005. DOI: 10.1351/pac200577010025.
45. Clark J, Shevchuk T, Swiderski PM, **Dabur R**, Crocitto LE, Buryanov YI, Smith SS. Construction of ordered protein arrays. **Methods Mol Biol**. 2005; 300:325-48. Review. PMID: 15657490 [PubMed - indexed for MEDLINE].
46. **Dabur R**, Chhillar AK, Yadav V, Kamal PK, Gupta J, Sharma GL. In vitro antifungal activity of 2-(3,4-dimethyl-2,5-dihydro-1H-pyrrol-2-yl)-1-methylethyl pentanoate, a dihydropyrrole derivative. **J Med Microbiol**. 2005 Jun; 54(Pt 6):549-52. PMID: 15888463 [PubMed - indexed for MEDLINE].
47. **Dabur R**, Diwedi SK, Yadav V, Mishra V, Singh R, Singh H, Sharma GL. Efficacy of 2-(3,4-dimethyl-2,5-dihydro-1h-pyrrole-2-yl)-1-methylethylpentanoate in a murine model

- of invasive aspergillosis. **Antimicrob Agents Chemother.** 2005 Oct; 49(10):4365-7. PMID: 16189123 [PubMed - indexed for MEDLINE]
48. Gupta J, Bhadoria DP, Lal MK, Kukreti R, Chattopadhaya D, Gupta VK, **Dabur R**, Yadav V, Chhillar AK, Sharma GL. Association of the PIM3 allele of the alpha-1-antitrypsin gene with chronic obstructive pulmonary disease. **Clin Biochem.** 2005 May; 38(5):489-91. PMID: 15820782 [PubMed - indexed for MEDLINE]
 49. Sawaya MR, Zhu Z, Mersha F, Chan SH, **Dabur R**, Xu SY, Balendiran GK. Crystal structure of the restriction-modification system control element C.BclI and mapping of its binding site. **Structure.** 2005 Dec; 13(12):1837-47. PMID: 16338412 [PubMed - indexed for MEDLINE]
 50. Yadav V, Gupta J, Mandhan R, Chhillar AK, **Dabur R**, Singh DD, Sharma GL. Investigations on anti-Aspergillus properties of bacterial products. **Lett Appl Microbiol.** 2005; 41(4):309-14. PMID: 16162136 [PubMed - indexed for MEDLINE]
 51. Yadav V, Mandhan R, **Dabur R**, Chhillar AK, Gupta J, Sharma GL. A fraction from Escherichia coli with anti-Aspergillus properties. **J Med Microbiol.** 2005 Apr; 54(Pt 4):375-9. PMID: 15770023 [PubMed - indexed for MEDLINE]
 52. **Dabur R**, Ali M, Singh H, Gupta J, Sharma GL. A novel antifungal pyrrole derivative from Datura metel leaves. **Pharmazie.** 2004 Jul; 59(7):568-70. PMID: 15296098 [PubMed - indexed for MEDLINE]
 53. Balendiran GK, **Dabur R**, Fraser D. The role of glutathione in cancer. **Cell Biochem Funct.** 2004 Nov-Dec; 22(6):343-52. Review. PMID: 15386533 [PubMed - indexed for MEDLINE]
 54. Clark J, Shevchuk T, Swiderski PM, **Dabur R**, Crocitto LE, Buryanov YI, Smith SS. Mobility-shift analysis with microfluidics chips. **Biotechniques.** 2003 Sep; 35(3):548-54. PMID: 14513560 [PubMed - indexed for MEDLINE]
 55. **Dabur R**, Singh H, Chhillar AK, Ali M, Sharma GL. Antifungal potential of Indian medicinal plants. **Fitoterapia.** 2003 Jun; 75(3-4):389-91. PMID: 15159003 [PubMed - indexed for MEDLINE]
 56. **Rajesh** and Sharma G L (2002). Studies on antimycotic properties of *Datura metel*. **J Ethanopharmacol** (80) 193-197. [PubMed - indexed for MEDLINE].

Books:

1. Jarrod Clark; Taras Schevchuk; Piotr M Swiderski; **Rajesh Dabur**; Laura E Crocitto; Yaroslav I Buryanov and Steven S Smith (2003). **Construction of Ordered protein Arrays.** Academic Press, Inc. A Division of Harcourt Brace & Company, 525 B Street, Suite 1900, San Diego, California, 92101-4495.
2. K. Chandra, BG Choudhary, **Rajesh Dabur**, TK Mandal, AM Gurav, MB Yelne (2007). **Database of Important Medicinal Plants Volume-VIII.** CCRAS Press, Govt of India, New Delhi.
3. **Rajesh Dabur**, Vikas Hooda and Anjum Gahlaut. Secondary Metabolites to Combat Diabetes: Natural Medicine. 6 September 2012. Publisher: LAP Lambert Academic Publishing (6 September 2012) SBN-10: 365923656X; ISBN-13: 978-3659236563
4. Mandal, T., Bhosale, J., Rao, G., Padhi, M.M., **Dabur, R.** Antimicrobial Activities of Gray Nickerbean (*Caesalpinia bonduc* Linn.) (2011) **Nuts and Seeds in Health and Disease Prevention**, pp. 561-567. Edited by: Victor R. Preedy, Ronald Ross Watson and Vinood B. Patel. ISBN: 978-0-12-375688-6. Elsevier.
5. Jarrod Clark; Taras Schevchuk; Piotr M Swiderski; **Rajesh Dabur**; Laura E Crocitto; Yaroslav I Buryanov and Steven S Smith (2003). Construction of ordered protein Arrays. Academic press, Inc. A Division of Harcourt Brace and Company, 525 B Street, Suite 1900, San Diego, California, 92101-4495.

6. K. Chandra, BG Choudhary, **Rajesh Dabur**, TK Mandal, AMGurav, MB Yelne (2007). Database of Important Medicinal Plants Volume-VIII. CCRAS Press, Govt. of India, New Delhi.
7. **Rajesh Dabur**, TK Mandal, AMGaurav, GB Rao (2011). Database of Important Medicinal Plants Volume-IX. CCRAS Press, Govt. of India, New Delhi.
8. Tasleem Arif, T.K. Mandal and **Rajesh Dabur** (2011). Natural Products: Antifungal agents derived from plants. **Opportunity, Challenge and scope of Natural Products in Medicinal Chemistry** Research Signpost 37/661 (2), Fort P.O. Trivandrum-695023 Kerala, India; ISBN: 978-81-308-0448-4.

Thesis Guided:

1. Thesis entitled "Identification and characterization of DNA binding protein in Tip60 complex" was awarded for Ph.D. Degree from Bundelkhand University, Jhansi.
2. Thesis entitled "Combination study of antibacterial agents against pathogenic bacteria" awarded of Ph.D. Degree MD University, Rohtak-HR. Nitu Phogat
3. Thesis entitled "Identification and characterization of biomarker (proteins and metabolites) in hyperlipidemic patients" awarded of Ph.D. Degree awarded by Savitri bai Phule University, Pune-MH.
4. Thesis entitled "In vitro assessment of an antidiabetic ayurvedic" Ph.D. Degree awarded by Savitri bai Phule University, University, Pune-MH.
5. Thesis entitled "Synthesis, characterization and biological activity of Ester derivatives of 1-(3, 4-dimethyl-2, 5-dihydro-1Hpyrrol-2-yl) propan-2-ol" Ph.D. Degree awarded by Jalgaun University, Pune-MH

Visits:

- December, 2001** : State University of New York (SUNY) at Stony Brook, New York.
- March, 2001** : Beckman Research Centre, Duarte, California, USA.
- June-August 2002** : Stanford University, Stanford, California, USA.
- January, 2003** : Harvard Institute of Medicine, Boston, MA, USA.