

CURRICULUM VITAE

Akhlesh Kumar Jain

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POST DOCTORAL EXPERIENCE

Total 3 year post doctoral experience on nanocarriers based siRNA delivery for Hepatocellular Carcinoma and gastric cancer at National University of Singapore (Sep 10- Oct11).

Also, worked on Cyclovector[®] (modified cyclodextrin) for siRNA delivery and gene delivery for selectively targeting the tumour tissues (University College Cork,, Cork Ireland) & delivery of genes & peptide based neurotoxin inhibitors to cholinergic neurons using (Dublin City University, Dublin, Ireland) Targeted delivery approaches. (Oct 08-Sep 11)

Two years post PhD experience as a Senior Scientist at Central Drug Research Institute (CSIR) Lucknow, India where I developed various nanoparticles and surface conjugates for selective targeting to cancerous regions. (Dec 06-Oct08)

AREAS OF INTEREST

Non-Invasive delivery of therapeutic proteins and Vaccines using ligand coupled vesicular & nano-constructs. Pegylated lipid vesicles for targeted delivery; Protein conjugates for per oral delivery; Targeting of chemotherapeutic agents to cancerous regions; Bio-conjugate chemistry and drug targeting, Physical pharmacy aspects related to controlled & sustained delivery, Formulation development.

ACADEMIC QUALIFICATIONS

- Aug. 2006** :Ph.D. (Pharmaceutical Sciences)
Indian Institute of Chemical Technology, (IICT) Hyderabad
Jamia Hamdard University, New Delhi, (Awarded)
- Ph.D. Thesis Title** :**Non-invasive delivery systems for mucosal immunization & systemic action of therapeutic proteins**
- Sep. 2001** :M. Pharm. (Pharmaceutics), First Class
Dr. H.S. Gour University, Sagar, India.
- Aug. 1999** :B. Pharm. First Class
Dr. H.S. Gour University, Sagar, India.

AWARDS AND FELLOWSHIPS

- * **2003** : Senior Research Fellowship (CSIR, Based on National Aptitude Screening Test) HRD, Govt. of INDIA
- * **1999** : Junior Research Fellowship (Graduate Aptitude Test in Engineering-99) IIT, Bombay, INDIA

RESEARCH EXPERIENCE

- **Seven years of experience** based on Nanocarriers of biopolymers & their selective targeting,
- 1.3 years experience from March 2002 – May 2003 as **Research Scientist** at Transgene Biotek Pvt. Ltd., Hyderabad (A.P.)
 - As Research Scientist, I have worked on project entitled “**Oral protein delivery systems**”
 - I was one of the team members involved in the development of Nanoparticles for oral insulin delivery (US Patent)
- During my Ph.D programme, I obtained interesting results with Ligand coupled nanoparticles for protein delivery –
 - Potential of Vesicular carriers for Nasal delivery of Insulin.
 - Ligand coupled vesicular carriers for Oral delivery of Hepatitis B surface antigen.

Projects handled as team member in pharmacology laboratory, IICT

1. “**Oral Drug Delivery for Proteins and Peptides**” Sponsored by Saket Biotechnologies, Hyderabad.
2. Comparative Pharmacokinetic Evaluation of Gentamicin Polymer Adducts in Sprague- Dawley Rats. Sponsored by M/s. Orchid Chemicals & Pharmaceuticals Ltd., Chennai – **December 2002.**
3. “Pharmacokinetics of the Antidote (DRDE-07) for sulphur mustard poisoning” Sponsored by Defence Research & Development Establishment, Gwalior- **June 2002.**
4. Subacute Toxicity Study of Tirofiban Hydrochloride in Rats and Mice. Sponsored by M/s. Gland Pharma Ltd., Hyderabad – **January 2003.**
5. Pre-clinical toxicological evaluation of Recombinant Human Epidermal Growth Factor (rh-EGF). Sponsored by M/s. Bharat Biotech International Ltd., Hyderabad – **August 2002.**

PROFESSIONAL COMPETENCE

- 1 Expertise in nanoparticles & formulation development (development of sustained release products, controlled release aspects, delivery vectors for proteins and biotech products, bio-conjugates and drug targeting.
- 2 Expertise in protein delivery aspects
- 3 Expertise in thermo gravimetric analysis like TGA & DSC.
- 4 Expertise in various chromatographic and spectroscopic analytical methods.
- 5 Knowledge of various scientific software programs.

- 6 Capable of both collaborative and independent research.
- 7 Possession of good communication and efficient management skills.

Personal Details:

Sex:	Male
Marital status:	Married
Nationality:	Indian
Date of birth:	26 th dec1977
Spouse:	Priyanka Jain, House wife
Child:	Aanya Jain, 2.5 yrs

DETAILS OF POST-GRADUATE WORKS AND PUBLISHED PAPERS

1. Synthesis and Stabilisation of Gold Nanoparticles Using Poly(ethylene-oxide)-Based Polymers: Stability Studies, Grafting density and Cellular Uptake, Kamil Rahme, Akhlesh Jain, Timothy Doody, Michael Morris, Caitriona O'Driscoll and Justin D. Holmes. Biomedical Engineering Research Journal (accepted) 2011.
2. **Jain, Akhlesh K.** R.K. Khar, F. J. Ahmed and Diwan, P.V., Effective insulin delivery using starch nanoparticles as a potential trans-nasal mucoadhesive carrier Eur J Pharm Bio 69;2, 2008, 226-435.
3. **Jain, Akhlesh K.** Chalasani, K.B., R.K. Khar, F. J. Ahmed and Diwan, P.V. Muco-adhesive multivesicular liposomes as an effective carrier for transmucosal insulin delivery Journal of Drug Targeting. 15:6, 2007, 417 – 427.
4. Chalasani, K. B., G. J. Russel-Jones, **Jain, A.K.**, S. K. Jain and Diwan P.V., Effective Oral Delivery of Insulin in animal models using Vitamin B12-coated Dextran Nanoparticles. Journal of controlled release 122 (2007) 141-150.
5. Jain, S.K., Amit, K.C., Chalasani, K. B., **Jain, A.K.**, Chourasia, M.K. Jain, A., and N.K., Jain. Enzyme triggered pH sensitive liposomes for insulin delivery. J. of Drug Delivery Science & Technology, 17, 2007, 399-405.
6. Ramarao, P., Kishore B. Chalasani, Abhay, S. Chauhan, **Akhlesh, K. Jain, M.** Kodanda Ram, and Prakash V. Diwan, Controlled systemic delivery of indomethacin using membrane moderated, cream formulation based transdermal devices. Drug delivery, 13, 2006, 207-13.
7. Jain,R.K, **Jain,A.K.**, Chourasia,M.K, Chalasani,K.B, Soni,V, and Jain S.K. Controlled systemic delivery of acyclovir sodium using multi vesicular liposomal depot delivery system AAPS Pharm Sci Tech, 2005, 6, E35-41.
8. S.K., Jain, M.K., Chourasia, **A.K.**, **Jain, R.K.**, Jain, and A.K., Shrivastava. Development and characterization of mucoadhesive microspheres bearing salbutamol for nasal delivery. Drug Delivery, 11, 2004, 113-122.
9. S.K., Jain, M.K., Chourasia, M., Sabitha, R., Jain, **A.K.**, **Jain, M.**, Ashawat, and A.K., Jha, Development and characterization of Transdermal drug delivery system for diltiazem hydrochloride. Drug Delivery, 10 (3), 2003, 169-177.
10. Chauhan, A. S., Sridevi, S., Chalasani, K. B., Jain, **A.K.**, **Jain, S.K.**, Jain, N.K., and Diwan, P.V. Dendrimer mediated Transdermal Delivery: enhanced bioavailability of indomethacin. Journal of controlled release, 90, 2003, 335-343.
11. Sridevi, S., Chauhan, A.S., Chalasani, K.B. **Jain, A.K.**, and Diwan, P.V. Evaluation of in-vitro and in-vivo bioavailability of complexes of Gliquidone and Hydroxy propyl- β -cyclodextrin. Di-Pharmazie, Germany 58 807-810 2003.

12. M.K., Chourasia, M.S., Ashawat, **A.K., Jain**, Neeti Jain, A. Jain, Nitin K. Jain and S.K., Jain. Thixotropically based intradermal liquid depot system bearing diltiazem hydrochloride. *Indian Journal of Pharmaceutical sciences* 66, (3), 2004, 322-328.
13. M.K., Chourasia, M.S., Ashawat, Neeti Jain², K.B. Chalasani, R.K. Jain, **A.K., Jain**, M., Sabitha and S.K., Jain. Radiopharmaceuticals: Preparation, Evaluation and Applications. *Indian Journal of Pharmaceutical sciences* 65, 2003, 439-449.

Papers presented in national Seminar/ Conferences.

1. Thixotropically based liquid intradermal depot bearing diltiazem hydrochloride. **53rd Indian Pharmaceutical congress – Delhi 2001.**
2. Efficacy of PAMAM dendrimers as *In Vitro* and *In Vivo* transdermal bioavailability enhancers. **54th Indian Pharmaceutical congress – Pune 2002.**
3. Mucoadhesive multivesicular liposomes for the sustained systemic delivery of diltiazem hydrochloride. **55th Indian Pharmaceutical congress – Chennai 2003.**
4. Potential of Tf-coupled PLGA nanoparticles for per oral delivery of insulin. **55th Indian Pharmaceutical congress – Chennai 2003.**

Seminars/Conference attended

1. Basic theory, instrumentation & applications of Particle size measurement and Differential Scanning Calorimetry, organized by Malvern Incorporation, UK, Hyderabad, 2002.
2. HPLC-basic theory, instrumentation & applications, organized by Asian and Mideast institute of chemists, IICT, Hyderabad, 2003.
3. Multiplexed biomarker Immunoassays for Luminex technology, organized by Linco Research, Hyderabad 2004.
4. Indo-US conference on New Bioactives molecules in Pharmaceutical research- Contribution of Natural Products, Indo-US CNNP-2006, Nov. 13th –14th, Hyderabad.
5. Controlled release society- Indian chapter Annual conference, June, 2007, India
6. Irish Drug Delivery Network annual conference, April, 2010, Dublin Ireland.