

Name

Sumit Kumar Hira

Designation

Assistant Professor



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Academic Qualifications:

Degree	Institution	Year
PhD (Immunology)	Banaras Hindu University	2014
MSc (Biochemistry Spl)	Banaras Hindu University	2008
BSc (H)- Zoology	Banaras Hindu University	2006

Area of specialization

We are interested in the function of Dendritic cell in the immune system during health and disease. We study how cytokines coordinate immune homeostasis and responses, and how they stimulate dendritic cells in vitro and in different models of cancer, inflammatory and autoimmune disease, as well as allograft rejection. To this end, we postulated that in order to generate a comprehensive anti-tumor immunity, dendritic cells require optimum activation via cytokine signaling which enhances the expression of major tumoricidal factor like TRAIL, TNF- α and simultaneous application of a second strategy in the form of chemotherapy could limits the proliferation of tumor cells. Simultaneous priming of dendritic cells by IL-15 and treatment with specific inhibitor against STAT3, showed that a successful therapeutic outcome is possible in early stages of cancer with minimum tumor mass and antigenic load. We propose a novel treatment strategy which may be beneficial against tumor progression and metastasis.

Position Held

1. 29/07/15 to till Assistant Professor, Department of Zoology, The University of Burdwan.
2. 11/02/15 to 28/07/15 Assistant Professor, Ananda Mohan College, University of Calcutta.

Awards/Achievements

May 2016	DST-SERB Early Career Research
November 2012	Best oral presentation at 39th Annual Meeting of Indian Immunology Society.
March 2012	FIMSA Travel Award
October 2010 – September 2013	Senior Research Fellowship, Indian Statistical Institute, India.
October 2008 - September 2010	Junior Research Fellowship – Council of Scientific and Industrial Research
December 2007	CSIR-UGC NET JRF (Life Sciences)

Professional Association:

1. Member European Academy for Tumor Immunology
2. Member Indian Immunology Society
3. Member Eastern Hematology Group

Current Research Projects (Principal Investigator):

Sr. No	Name of the Project	Duration	Funding Agency	Amount (Rs)
1.	Effect of TGF- β silencing in Dendritic cell mediated immunotherapy against an aggressive murine lymphoma: Role of cytokine.	2016-2019	DST	35.0
2.	Toll-like receptor agonists and dendritic cell combination immunotherapy in experimental murine lymphoma	2016-2018	UGC	10.0

List of recent 10 major publications

1. **Hira, S. K.**, K. Ramesh, U. K. Gupta, K. Mitra, N. Misra, B. Ray and P. P. P. Manna (2015). "Methotrexate-loaded four-arm star amphiphilic block copolymer elicits CD8+ T cell response against a highly aggressive and metastatic experimental lymphoma." ACS Applied Materials & Interfaces. (I.F=6.7)
2. **Hira SK**, Mondal I, Bhattacharya D, Gupta KK, Manna PP. Downregulation of STAT3 phosphorylation enhances tumoricidal effect of IL-15-activated dendritic cell against

doxorubicin-resistant lymphoma and leukemia via TNF-alpha. The international journal of biochemistry & cell biology. 2015;67:1-13. (I.F=4.6)

3. **Hira SK**, Mondal I, Manna PP. Combined immunotherapy with whole tumor lysate-pulsed interleukin-15-activated dendritic cells and cucurbitacin I promotes strong CD8(+) T-cell responses and cures highly aggressive lymphoma. Cytotherapy. 2015;17:647-64. (I.F=3.2)
4. Vishwakarma NK*, Patel VK*, **Hira SK***, Ramesh K, Srivastava P, Mitra K, et al. Tadpole-shaped [small beta]-cyclodextrin-tagged poly(N-vinylpyrrolidone): synthesis, characterization and studies of its complexation with phenolphthalein and anti tumor activities. RSC Advances. 2015;5:15547-58. (*Equal contribution) (I.F=3.84)
5. **Hira SK**, Mondal I, Bhattacharya D, Manna PP. Downregulation of endogenous STAT3 augments tumoricidal activity of interleukin 15 activated dendritic cell against lymphoma and leukemia via TRAIL. Experimental cell research. 2014;327:192-208. (I.F=3.5)
6. **Hira SK**, Mishra AK, Ray B, Manna PP. Targeted delivery of doxorubicin-loaded poly (epsilon-caprolactone)-b-poly (N-vinylpyrrolidone) micelles enhances antitumor effect in lymphoma. PloS one. 2014;9:e94309. (I.F=3.53)
7. Manna PP, **Hira SK**, Basu A, Bandyopadhyay S. Cellular therapy by allogeneic macrophages against visceral leishmaniasis: role of TNF-alpha. Cellular immunology. 2014;290:152-63. (I.F=2.07)
8. Manna PP, **Hira SK**, Das AA, Bandyopadhyay S, Gupta KK. IL-15 activated human peripheral blood dendritic cell kill allogeneic and xenogeneic endothelial cells via apoptosis. Cytokine. 2013;61:118-26.(I.F=3.01)
9. **Hira SK**, Manna PP. Down regulation of CD24 and HER-2/neu in breast carcinoma cells by activated human dendritic cell. Role of STAT3. Cellular immunology. 2012;275:69-79.(I.F=2.07)
10. SK Arepalli, H Tripathi, **SK Hira**, PP Manna, R Pyare, SP Singh. Enhanced bioactivity, biocompatibility and mechanical behavior of strontium substituted bioactive glasses Materials Science and Engineering: C 69, 108-116 .(I.F=3.5)

Book Chapter

1. **Hira SK**, Verma D, Manna PP. Tumor antigen-/cytokine-pulsed dendritic cells in therapy against lymphoma. **Methods in molecular biology**. 2014; 1139:45-56.

Full list of Publication [click here](#)