2017Joint Usage and Research Report

Title of Research Project		**Identification and characterization of novel coding and non-coding genes regulating the innate immunity against virus infection and cancer. (The Second Phase)**
Applicant	Institution	**Indian Institute of Science Education and Research (IISER), Bhopal, Madhya Pradesh, India**
	Job title and name	**Dr. (Ph.D), Associate Professor**
Visiting researcher	Name	**Professor Akinori Takaoka**
Purpose of the Research Project (approx. 250 words)		Host immune responses are key component against neoplastic growth induced within the host by abrupt deregulation of normal cells through multifactorial biotic and abiotic stresses. The immune responses are result of complex network of sensing via sensors and cascade of molecular signaling involving, adaptors, kinases and transcription factors which are tightly regulated at transcriptional, post-transcriptional, translational and post-translational levels. We have identified some factor of HCMV which dysregulate innate immune sensors-dependent signaling for production of type I interferons and may involve in oncogenesis. Our prediction was further strengthen by series of ex vivo and in vitro experiments and showed that these novel viral factors which are critical in development of cancer. We wish to explore these results using various transgenic mice such as IFNAR KOs, etc.
Development of the Research Project and Results (approx.. 850 words)		I visited Prof. Akinori Takaoka laboratory, Signaling in Cancer and Immunology Laboratory, IGM, Hokkaido University from December 18, 2017, to December 22, 2017 and performed some experiments with a group member of Prof. Takaoka. We are still doing several in vivo experiments to find out more about identified molecules which play a key role in innate immunity against HBV and Listeria monocytogen infection. We also had series of presentation and discussions with Prof. Takaoka and his group members for future fundamental research as well as some aspect of teaching. Our visit was highly fruitful regarding learning and, I believe that our visit is an important cornerstone for our highly productive future research. I also attended a meeting organized at IGM and delivered a talk on “Innate immune responses to virus infection during infectious and non-infectious diseases” on December, 21, 2017.

	Overall the visits were extremely useful and hope in future we will have several exciting results from our collaboration.
Publication *Enter the names of conference or journal and its vol. No. where the above work was presented.	【Conference, symposium, workshop etc.】 IGM meeting on December, 21, 2018
	【Journals】 1. Kumari, P.; Saha, I.; Narayanan, A.; Narayanan, S.; Takaoka, A.; Kumar, N. S.; Tailor, P.; Kumar, H., Essential role of HCMV deubiquitinase in promoting oncogenesis by targeting anti-viral innate immune signaling pathways. *Cell Death & Disease* 2017, *8*, e3078.