conferenceseries.com JOINT EVENT

19th Euro Congress on Cancer Science and Therapy
&
25th Cancer Nursing & Nurse Practitioners Conference

July 17-19, 2017 Lisbon, Portugal

Blocking WNT5A-interleukin-6-loop as an effective strategy to impair the invasive migration of BRAF-inhibitor (BRAFi) resistant melanoma cells

Purusottam Mohapatra[1, 2], **Chandra P Prasad**[1, 2, 3], **Gunilla Jönsson**[1, 2], **Farnaz Moradi**[1, 2] and **Tommy Andersson**[1, 2]

[1]Lund University, Sweden

[2]Skåne University Hospital, Sweden

[3]All India Institute of Medical Sciences, India

Metastasis is a major issue in melanoma patients with relapsing tumor resulted from acquired therapy resistance. A complete understanding on the metastatic regulators in targeted therapy-sensitive/resistant malignant melanoma and development of therapeutic molecules against these regulators will serve a crucial role in the treatment strategy for this deadly disease. The key metastatic regulators, WNT5A and interleukin-6 (IL-6) have been shown to induce melanoma progression. In the present study, we hypothesized that up-regulation of WNT5A-IL-6 feedback loop is associated with the acquired-resistance towards BRAF-targeted therapies and therefore might serve as a potential therapeutic target. We established three PLX4032-resistant melanoma cell lines with elevated IC50 for PLX4032 and ERK activity, compared with their respective parental cells. We observed increased expression of WNT5A and IL-6 along with parallel elevation in cell migration and invasion of PLX4032-resistant cells. Furthermore, we demonstrated that dual inhibition of WNT5A and IL-6 signaling (by Box5 and IL-6 neutralizing antibody) effectively impaired the migration and invasion of PLX4032-resistant cells. Overall, our results suggested that the elevated WNT5A and IL-6 levels in PLX4032-resistant melanoma cells fuels up the WNT5A-IL-6-loop thereby increasing cell migration and invasion, and combined inhibition of WNT5A and IL-6 could serve as a potential therapeutic strategy for BRAFi-resistant melanomas.

Biography

Purusottam Mohapatra has completed his PhD in Cancer Biology and is currently working as a Post-doctoral Researcher with Professor Tommy Andersson at Clinical Research Centre, Lund University, Sweden. He has published more than 20 original, and review articles on cancer causes and therapy in various reputed international journals. His current research focuses on the identification of metastatic effectors and developing anti-metastatic treatments for targeted-therapy resistant cancers.

purusottam.mohapatra@med.lu.se

Notes: