Yeng S Ang, J Proteomics Bioinform 2017, 10:12(Suppl)
DOI: 10.4172/0974-276X-C1-109

PEA3/ETV4-related transcription factors coupled with active ERK signalling are associated with poor prognosis in gastric adenocarcinoma

Yeng S Ang[1,2]
[1]Salford Royal University Hospital, UK
[2]University of Manchester, UK

Background: Transcription factors often play important roles in tumorigenesis. Members of the PEA3 subfamily of ETS-domain transcription factors fulfill such a role and have been associated with tumor metastasis in several different cancers. Moreover, the activity of the PEA3 subfamily transcription factors is potentiated by Ras-ERK pathway signalling, which is itself often deregulated in tumor cells.

Methods: Immunohistochemical patterns of PEA3 expression and active ERK signalling were analyzed and mRNA expression levels of PEA3, ER81, MMP-1 and MMP-7 were determined in gastric adenocarcinoma samples.

Results: Here, we have studied the expression of the PEA3 subfamily members PEA3/ETV4 and ER81/ETV1 in gastric adenocarcinomas. PEA3 is upregulated at the protein level in gastric adenocarcinomas and both PEA3/ETV4 and ER81/ETV1 are upregulated at the mRNA level in gastric adenocarcinoma tissues. This increased expression correlates with the expression of a target gene associated with metastasis, MMP-1. Enhanced ERK signalling is also more prevalent in late-stage gastric adenocarcinomas and the co-association of ERK signalling and PEA3 expression also occurs in late-stage gastric adenocarcinomas. Furthermore, the co-association of ERK signalling and PEA3 expression correlates with decreased survival rates.

Conclusions: This study shows that members of the PEA3 subfamily of transcription factors are upregulated in gastric adenocarcinomas and that the simultaneous upregulation of PEA3 expression and ERK pathway signalling is indicative of late-stage disease and a poor survival prognosis.

Biography

Yeng S Ang has an international professional standing and research expertise to enhance clinical interventions in Barrett's oesophagus and oesophageal cancer. He is a Member of the BSG/National Clinical Research Institute Upper GI early cancer prevention research subgroup. He is a peer Reviewer for the NIHR RFPB programme and a member of the Research Steering Board of Manchester Cancer Research Centre (Cancer Research UK Manchester Institute). These research initiatives have shaped his contribution for the management of GORD, Barrett's oesophagus and oesophageal cancer. He has published over 45 articles and he is a Supervisor for PhD and MD students in the molecular cancer group of the University of Manchester.

Yeng.Ang@srft.nhs.uk

Notes: