Author's response to reviews

Title: S100A16 Promotes Differentiation and Contributes to a Less Aggressive Tumor Phenotype in Oral Squamous Cell Carcinoma

Authors:

Dipak Sapkota (Dipak.Sapkota@gades.uib.no)
Ove Bruland (ove.bruland@helse-bergen.no)
Himalaya Parajuli (Himalaya.Parajuli@k1.uib.no)
Tarig A Osman (Tarig.Osman@k1.uib.no)
Muy-Teck Teh (m.t.teh@qmul.ac.uk)
Anne C Johannessen (Anne.Johannessen@k1.uib.no)
Daniela E Costea (Daniela.Costea@k1.uib.no)

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Subject: Submission of the research manuscript entitled ‘S100A16 Promotes Differentiation and Contributes to a Less Aggressive Tumor Phenotype in Oral Squamous Cell Carcinoma’ to The BMC Cancer.

The S100 protein family is a multifunctional group of EF-hand calcium binding proteins involved in several biological processes related to the normal development and carcinogenesis. Genes encoding several of the members of this family are clustered in the epidermal differentiation complex (EDC) on chromosome 1q21 and many these members have been shown to be involved in cellular differentiation and differentiation-related pathologies, including human cancers.

S100A16 is a recent addition to the S100 protein family. Although it has been reported to be widely expressed in human tissues, its precise biological functions in human cancers are currently unknown. In the current study, using oral squamous cell carcinoma (OSCC) specimens, external microarray datasets, OSCC-derived cell-lines, mouse xenograft model and a number of molecular techniques, we showed, for the first time that i) S100A16 mRNA and protein levels are gradually down-regulated during OSCC progression and reduced expression can predict OSCC patient survival, ii) S100A16 suppresses aggressive OSCC phenotype both in vitro and in vivo by inducing keratinocyte differentiation and regulating proliferation and invasion-related molecules. Additionally, examination of external microarray datasets indicated a broader relevance for S100A16 in the tumorigenesis of other human malignancies as well.

We consider these findings of interest in cancer and cell biology field and would like to have it considered for publication in The BMC Cancer. All the authors have participated in the study to a sufficient extent to be named with the manuscript and agree to its submission to The BMC Cancer.

Sincerely
On behalf of the authors,

Dr. Dipak Sapkota
Department of Clinical Medicine, The Gade Laboratory for Pathology, University of Bergen, Haukeland University Hospital, N-5021 Bergen, Norway
E-mail: Dipak.Sapkota@k1.uib.no
Tel: +47 55973231
Fax: +47 55973157