Reviewer's report

Title: Gene expression analysis after receptor tyrosine kinase activation reveals new potential melanoma proteins

Version: 1 Date: 20 May 2010

Reviewer: Rutao Cui

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The authors analyzed Xmrk-induced gene expression using a microarray approach and found that FOS-like antigen 1 (Fosl1), early growth response 1 (Egr1), osteopontin (Opn), insulin-like growth factor binding protein 3 (Igfbp3), dual-specificity phosphatase 4 (Dusp4), and tumor-associated antigen L6 (Taal6) were upregulated after receptor activation. They also demonstrated that FOSL1, OPN, IGFBP3, DUSP4, and TAAL6 were overexpressed in human melanoma cell lines. Knockdown of FOSL1 in human melanoma cell lines resulted in anti-proliferation and anti-migration. FOSL1 was a new potential molecular player in melanomagenesis.

Major points

1. All data were collected from in vitro. The conclusion will be much more solid if the author can show the FOSL1 expression in human melanoma tissues.

2. As a potential marker, is FOSL1 specific expressed in melanocyte lineage? If not, the significance of this study will be concerned. In melanoma clinical, the dermatopathologists usually use some specific marker (S-100, HMG-45 or Mert-1/Melanin A) to recognize the melanocytes only.

3. Is there any connection between FOSL1 overexpression and B-Raf/N-ras mutation?

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

'I declare that I have no competing interests' below.