

Knockdown of TSPAN1 by RNA silencing and antisense technique inhibits proliferation and infiltration of human skin squamous carcinoma cells

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ABSTRACT

Aim. To explore the function of TSPAN1 in squamous cell skin carcinoma by means of TSPAN1-specific siRNA and antisense oligonucleotide techniques.

Methods. pU6H1-GFP-siRNA TSPAN1 and pcDNA3.1 antisense TSPAN1 were constructed and transfected into squamous cell skin carcinoma cell line A431 cells to knock down TSPAN1 gene expression. The levels of TSPAN1 mRNA and protein expression were detected by semiquantitative RT-PCR and Western blot, respectively. The proliferation rates of A431 cells were determined by MTT assay and flow cytometry. Lastly, the migration and infiltration of A431 cells were determined by the Transwell migration assay.

Results. Transfection with either pU6H1-GFP-siRNA TSPAN1 or pcDNA3.1 antisense TSPAN1 led to an obvious reduction of expression levels of TSPAN1 mRNA and protein in A431 cells, respectively. The proliferation, migration and infiltration of A431 cancer cells were significantly inhibited at 48 hours after transfection of plasmids harboring TSPAN1 siRNA and antisense RNA.

Conclusion. The TSPAN1 gene might play a role in the proliferation of squamous cell carcinoma of the skin and be associated with cancer cell motility, implying a function of the gene in the development of skin cancer. **Free full text available at www.tumorionline.it**

Key words: TSPAN1, RNA interference, antisense oligonucleotide, skin squamous cell carcinoma.

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