MELANOMA AND MELANOCYTIC NAEVI

LNCRNA CD27-AS PROMOTES PROLIFERATION AND INVASION OF MELANOMA CELLS THROUGH REGULATING CD27

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Introduction: Melanoma is the most aggressive type of skin cancer and accounts for the vast majority of skin cancer patient death. Our previous data have shown that a number of lncRNAs are dysregulated in melanoma compared with those in nevi. Among these lncRNAs, we focused on one specific lncRNA, CD27-AS1, the expression of which was much higher in primary melanoma than that in nevi, for further study.

Objective: The present study was conducted to investigate the role of lncRNA CD27- AS1 and the underlying mechanism of its oncogenic activity in melanoma.

Materials and Methods: We validated the expression of CD27- AS1 in melanoma, nevi, melanoma cells and melanocytes by qRT-PCR. Its location in melanoma cells was identified by FISH. The effects of CD27- AS1 on the growth and invasion of melanoma cells were assessed by clone formation and transwell analysis, respectively. The regulation of CD27-AS1on the expression of CD27 was evaluated by qRT-PCR and western blot. The expression of CD27 and function in melanoma was performed as those of CD27- AS1.

Results: We found that CD27-AS1 was dramatically upregulated in primary melanoma and melanoma cell lines, compared with that in nevi and melanocytes. It was located in the nucleus of melanoma cells. Functional analysis in vitro demonstrated that CD27-AS1 knockdown in melanoma cells inhibited cell growth and migration. Further results suggested the CD27-AS1 was upstream of CD27 and CD27 knockdown also inhibited the malignant phenotype of melanoma cells. Moreover, the expression of CD27 was positively correlated with that of CD27-AS1 in melanoma.

Conclusions: The above results demonstrate that CD27-AS promotes proliferation and invasion of melanoma cells through regulating CD27.