肿瘤防治研究
Cancer Research on Prevention and Treatment

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SLC9A3R1 Overexpression Inhibits Proliferation of Breast Cancer Cell Line MDAMB-231

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Objective To investigate the effect of SLC9A3R1 on the proliferation, anchorage-independent growth and migration of breast cancer cell line MDA-MB-231. Methods pBK-CMV-HA-SLC9A3R1wt vector was constructed and transfected into the tumor cell MDA-MB-231 which didn,t express SLC9A3R. After G418 screening the cell line stably expressing SLC9A3R1 were obtained and verified by Western blot analysis. CCK-8 kit was used to detect the proliferative activity of MDA-MB-231 cell. Anchorageindependent growth was assessed by soft agar assay. FCM was applied to detect the effect of SLC9A3R1 on the apoptosis of MDA-MB-231 cell line. Results SLC9A3R1 could weaken the proliferation of MDAMB-231 cells significantly, up to 50% (P=0.0016 on day 5, P=0.002 on day 6, P=0.006 on day 7). Compared with MDA-MB-231 cells and the cells integrated of empty vectors, SLC9A3R1 overexpression could decrease the anchorage-independent growth markedly [(2.9±0.47)%, (2.52±0.08)% vs. (1.33±0.33)%], about 47%(P=0.007). Compared with MDA-MB-231 cells integrated of empty vectors, SLC9A3R1 overexpression could increase the apoptosis percent of MDA-MB-231 cell line apparently [(2.23±1.41)% vs.(9.23±2.97)%], up to 4 times(P=0.018). Conclusion SLC9A3R1 could inhibit the proliferation and migration of breast cancer cell line MDA-MB-231.

#□## ## Breast cancer, SLC9A3R1, Anchorage-independent growth, Colony formation ability

Abstract##

Objective To investigate the effect of SLC9A3R1 on the proliferation, anchorage-independent growth and migration of breast cancer cell line MDA-MB-231. Methods pBK-CMV-HA-SLC9A3R1wt vector was constructed and transfected into the tumor cell MDA-MB-231 which didn,t express SLC9A3R. After G418 screening the cell line stably expressing SLC9A3R1 were obtained and verified by Western blot analysis. CCK-8 kit was used to detect the proliferative activity of MDA-MB-231 cell. Anchorageindependent growth was assessed by soft agar assay. FCM was applied to detect the effect of SLC9A3R1 on the apoptosis of MDA-MB-231 cell line. Results SLC9A3R1 could weaken the proliferation of MDAMB-231 cells significantly, up to 50% (P=0.0016 on day 5, P=0.002 on day 6, P=0.006 on day 7). Compared with MDA-MB-231 cells and the cells integrated of empty vectors, SLC9A3R1 overexpression could decrease the anchorage-independent growth markedly [(2.9±0.47)%, (2.52±0.08)% vs. (1.33±0.33)%], about 47%(P=0.007). Compared with MDA-MB-231 cells integrated of empty vectors, SLC9A3R1 overexpression could increase the apoptosis percent of MDA-MB-231 cell line apparently [(2.23±1.41)% vs.(9.23±2.97)%], up to 4 times(P=0.018). Conclusion SLC9A3R1 could inhibit the proliferation and migration of breast cancer cell line MDA-MB-231.

Key words## Breast cancer SLC9A3R1 Anchorage-independent growth Colony formation ability

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תá** **** **pBK-CMV-HA**pBK-CMV-HA-SLC9A3R1wt****ת**********SLC9A3R1****
MDA-MB-231**'**þ**G418ϕw********ł**˝**SLC9A3R1**MDA-MB-231þ**ϵ****
Western blot****□***CCK-8**Ł**м*******þ*****¯**********'*****γω*******
SLC9A3R1**MDA-MB-231þ***γr**********Ÿ**盃**********'þ***Æ**SLC9A3R1**MDAMB-
231þ********Ÿ**鍖*** SLC9A3R1**'MDA-MB-231þ*********L********50****
(5**P=0.0016****6**P=0.002****7**P=0.006)*****MDA-MB-231þ*********.*******þ**
SLC9A3R1*****'MDA-MB-231þ**ϵê***ᴗ˜**˩**********L***[(2.9±0.47)%**(2.52±0.08)%
(1.33±0.33)%]**47%(P=0.007)**********.*******MDA-MB-231þ**SLC9A3R1*****'
MDA-MB-231þ**ϵ*****4****[%(2.97±9.23)**%(1.41±2.23)]**********¸******* (P=0.018)*******
SLC9A3R1*******MDA-MB-231**'**þ*********Ǩ*********

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