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## **Protective Effects of Curcumin on Colon Cancer Based on Regulation of lncRNA NBR2 Targeting Notch1 for Epithelial-mesenchymal Transition**

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**KEYWORDS** Colon Cancer. Curcumin. Epithelial-Mesenchymal Transition. Notch1. Proliferation

**ABSTRACT** The researchers set the purpose of appraising how curcumin performs its protective function in colon cancer based on regulation of lncRNA NBR2 targeting Notch1 for epithelial-mesenchymal transition. Curcumin at 10-50  $\mu\text{mol/L}$  inhibited SW480 cell proliferation. With rising curcumin concentration, the protein expression of Vimentin significantly decreased, whereas E-cadherin presented an increased protein expression ( $P < 0.05$ ). Curcumin up-regulated NBR2 expression but down-regulated Notch1 expression dose-dependently. NBR2 and Notch1 expressions were negatively correlated with each other. The Notch1 expression in curcumin treatment groups was suppressed by NBR2 overexpression, but enhanced by NBR2+Notch1 treatment. The NBR2+Notch1 group exhibited a strengthened cell proliferation ability compared with the NBR2 group. In curcumin treatment groups, the roles of NBR2 overexpression in suppressing cell proliferation was weakened by overexpressed Notch1. LncRNA NBR2 is a vital player in regulating curcumin to exert its inhibitory effects on cell proliferation, probably by down-regulating the Notch1 pathway in the case of colon cancer.