

Figure S1. Alignment of miR-200a sequence with target sites on the 3'-untranslated region of wild-type or mutant reporter genes. APC, adenomatous polyposis coli protein; CDH1, cadherin-1; CTNNA1, catenin  $\alpha$ 1; CTNNB1, catenin  $\beta$ 1; miR, microRNA; MUT, mutant; PTEN, Phosphatase and tensin homolog; SOD2, superoxide dismutase; WT, wild-type.

CTNNB1		
hsa-miR-200a 3'-AGGUCGUGACAGGCCAUUCUAC-5'		
CTNNB1-3'UTR-WT 5'-AUCAUC-CU-TUUGGUAGAAG-3'		
CTNNB1-3'UTR-MUT 5'-AUCAUC-CU-UUAGCAUUGAAG-3'		
CTNNA1		
hsa-miR-200a 3'-AGGUCGUGACAGGCCAUUCUAC-5'		
TP53-3'UTR-WT 5'-AACAGAACUAUAACCUAAGAUA-3'		
TP53-3'UTR-MUT 5'-AACAGAACUAUAACCUUUCUUA-3'		
PTEN		
hsa-miR-200a 3'-AGGUCGUGACAGGCCAUUCUAC-5'		
PTEN-3'UTR-WT 5'-UUCAACAAAGCAUAGUAAGGU-3'		
PTEN-3'UTR-MUT 5'-UUCAACAAAGCAUAGUUUCCUA-3'		
CDH1		
hsa-miR-200a 3'-AGGUCGUGACAGGCCAUUCUAC-5'		
CDH1-3'UTR-WT 5'-CACUUCAUUGUCAGGUAGAUA-3'		
CDH1-3'UTR-MUT 5'-CACUUCAUUGUCAGGUUUCUUA-3'		
SOD2		
hsa-miR-200a 3'-AGGUCGUGACAGGCCAUUCUAC-5'		
SOD2-3'UTR-WT 5'-GCUUUUAUGUGUCAUGUAAGAUU-3'		
SOD2-3'UTR-MUT 5'-GCUUUUAUGUGUCAUGUUUCUUU-3'		
APC		
hsa-miR-200a 3'-AGGUCGUGACAGGCCAUUCUAC-5'		
APC-3'UTR-WT 5'-UAGAUUUAAUACGAUUUAGAUA-3'		
APC-3'UTR-MUT 5'-UAGAUUUAAUACGAUUUUCUUA-3'		

Figure S2. Protein expression of miR-200a target genes in normal esophageal tissue from the Human Protein Atlas. Representative immunohistochemistry images of miR-220a target genes (CTNNB1, CDH1, TP53, PTEN, CDK1, APC, CTNNA1, FYN and SOD2) demonstrating their expression in normal esophageal tissues. Scale bars, 100  $\mu$ m. APC, adenomatous polyposis coli protein; CDH1, cadherin-1; CTNNA1, catenin  $\alpha$ 1; CTNNB1, catenin  $\beta$ 1; FYN, tyrosine-protein kinase; miR, microRNA; SOD2, superoxide dismutase.

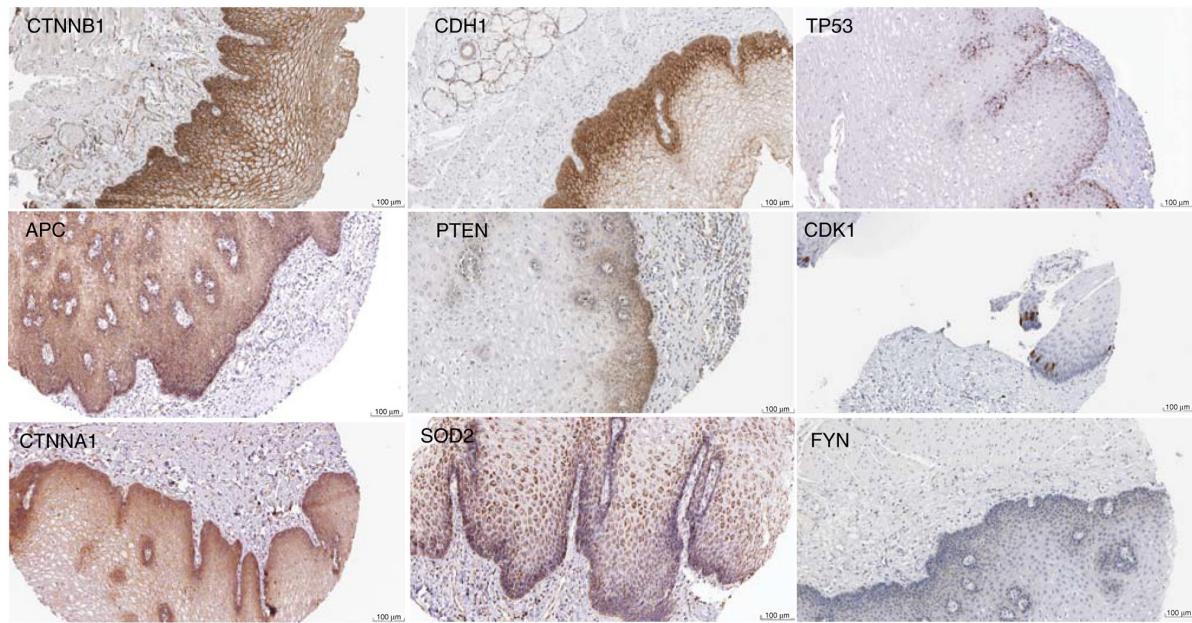


Table SI. Primers used for reverse transcription-quantitative PCR.

Gene	Primer sequence (5'→3')
microRNA-200a	F: TAACACTGTCTGGTAACGATGT R: ATCGTTACCAGACAGTGTATT
CTNNB1	F: AACAAAGCCACCAGCAGGAAT R: AGGTTATGCAAGGTCCCAGC
CDH1	F: CAGGCCTCCGTTCTGGAAT R: GGTGTATAACAGCCTCCCACG
PTEN	F: TGGATTGACTTAGACTTGACCT R: GGTGGGTTATGGTCTTCAAAGG
APC	F: AGACAGAATGGAGGTGCTGC R: CTTCGAGGTGCAGAGTGTGT
CTNNA1	F: GGACTGGAGGGAGACAAAGC R: ATGTTGCCTCGCTTCACAGA
SOD2	F: CCTGGAACCTCACATCAACG R: GCTATCTGGGCTGTAACATCTC
GAPDH	F: GCACCGTCAAGGCTGAGAAC R: GGATCTCGCTCCTGGAAGATG
U6	F: CTCGCTTCGGCAGCACATTT R: AACGCTTCACGAATTGCGT

F, forward; R, reverse; APC, adenomatous polyposis coli protein; CDH1, cadherin-1; CTNNA1, catenin  $\alpha$ 1; CTNNB1, catenin  $\beta$ 1; GAPDH, glyceraldehyde-3-phosphate dehydrogenase; PTEN, Phosphatase and tensin homolog; SOD2, superoxide dismutase.

Table SII. Primers used for target gene 3'-untranslated region amplification in dual-luciferase reporter assay.

Gene	Primer sequence (5'→3')
CTNNB1	F: CCTCCAGGTGACAGCAATC R: CATCTTGTGATCCATTCTTGTGC
CDH1	F: TTGGGATTACAGACATGAGCC R: AGAGTTGAGGTTACAGTGAGC
PTEN	F: TTCACATCCTACCCCTTGC R: CATTCCCTCCATTCCCCTAAC
APC	F: TGTCTTCCCCCTTCATCTTC R: GAGATCTTGCCCTAACATACAGG
CTNNA1	F: AGATGCCATTCTCTTAGTGATG R: TTCCTAAGATGCCAGGTTG
SOD2	F: TCTAGTCTTTGCCCTCAGTTAC R: CCAGAAAGTATCACTGCAGAGG

F, forward; R, reverse; APC, adenomatous polyposis coli protein; CDH1, cadherin-1; CTNNA1, catenin  $\alpha$ 1; CTNNB1, catenin  $\beta$ 1; GAPDH, glyceraldehyde-3-phosphate dehydrogenase; PTEN, Phosphatase and tensin homolog; SOD2, superoxide dismutase.