

| miRNA Expression and function | miRNA analysis methodology | Pathology and Human Tissue | Cell line | Human Tissue | Cell process analyzed | Targets and methodology used |
|---|---|--------------------------------|--|---|---|---|
| miR-34a-5p (-) | qRT-PCR | Lung cancer, Colorectal cancer | H1299, NSCLC, BRC, CRC, and A549 | NA | Migration Invasion | Axl (Luciferase reporter assay, Western blotting, and RT-PCR) |
| miR-34a-5p (-) miR-34b-5p (-) miR-34c-5p (-) | qRT-PCR | Gastric cancer | Kato III, AGS, N87, and MKN45 | NA | Cell cycle Apoptosis Tumorsphere formation | BCL-2 (Luciferase reporter assay, qRT-PCR, and Western blot) HMGA2, NOTCH1, NOTCH2, NOTCH3, NOTCH4 (qRT-PCR) |
| miR-34a-5p (-) | qRT-PCR | Glioma | U251, A172, and SHG-44 | NA | Proliferation Cell cycle Apoptosis Migration Invasión | SIRT1 (Luciferase reporter assay, Western blot, and qRT-PCR) |
| miR-34a-5p (-) | q RT-PCR | Hepatocellular carcinoma | HepG2 | NA | Proliferation Cell cycle Apoptosis Migration Invasion | CDK4, CDC2, Cyclin D1, Cyclin A, HSP90B1, HSP27 (Western Blot) |
| miR-34a-5p (-) miR-34b-5p (-) miR-34c-5p (-) | qRT-PCR | Osteosarcoma | U2OS and SAOS-2 | Primary tumor samples | Cell cycle Apoptosis | CDK6 and Bcl-2 (Western Blott), E2F3 and Cyclin E2 (Luciferase reporter assay, Western Blot) |
| miR-34a-5p (-) miR-34b-5p (-) miR-34c-5p (-) | qRT-PCR <i>In situ</i> hybridization | Ovarian cancer | SKOV-3 | Stage tumors I, II, III, IV | Migration Invasion | MET (qRT-PCR, Western Blotting, <i>In situ</i> hybridization) CDK4 (Western blotting). |
| miR-34a-5p (-) miR-34b-5p (-) miR-34c-5p (-) | qRT-PCR | Pancreatic Cancer | MiaPaCa2 and BxPC3 | NA | Cell cycle Apoptosis Tumorsphere formation Tumor Growth in mice | BCL-2 (Luciferase reporter assay, qRT-PCR, Western blotting) NOTCH1 and NOTCH2, (Western blot and qRT-PCR) NOTCH3 and cMet (qRT-PCR) Mcl-1 and Bcl-xL (Western blot) |
| miR-34a-5p (-) | qRT-PCR | Prostate cancer | PC3 | NA | Cell cycle Chemoresistance | SIRT1 (qRT-PCR, Western blotting, Luciferase reporter assay) CDK6, E2F3, E2F1, Cyclin D1, BCL2 (Western blot) |
| miR-34a-5p (-) miR-34b-5p (-) miR-34c-5p (-) | qRT-PCR | Lung cancer | SCLC cell lines [NCI-H1048 (H1048), SBC5, HCC33, NCIH211 (H211), NCI-H524 (H524), NCI-H841 (H841), NCI-H1688 | SCLC, NSCLC resected tumors, and malignant pleural effusions in SCLC patients | Anchorage independant growth, Migration Invasion | c-MET and CDK6 (Western blot) |

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|---|---------|--------------------|--|--|---|--|
| | | | (H1688), NCI-H1870 (H1870), NCI-H2141 (H2141), NCI-H82 (H82), NCI-H249 (H249)] and 14 NSCLC cell lines [PC-9, HCC827, NCIH1975 (H1975), NCI-H3255 (H3255), A549, NCI- H1395 (H1395), NCI-H522 (H522), NCI-H838 (H838), HCC15, NCI-H125 (H125), NCI-H460 (H460), NCI-H661 (H661), NCI-H1299 (H1299), and NCIH358 (H358)] | | | |
| miR-34a-5p (-) | qRT-PCR | Lung cancer | A549, BJ, NCI- H460, Calu- 3, NCI- H596, NCI- H1650, HCC2935, SW-900, NCI-H226, NCIH522, NCI-H1299, Wi-38, and TE353 | FFPE lung tumor samples, NSCLC tumor samples. | Tumor growth in mice and Proliferation | Ki-67, Caspase-3, c- Met, Cdk4, Bcl-2 (immunohistochemis- try) |
| miR-34a-5p (-) miR-34b-5p (-) miR-34c-5p (-) | qRT-PCR | Retinoblast oma | Y79 and Weri-Rb1 | NA | Cell viability Cell cycle Apoptosis | <i>CCND1, CNNE2,</i> <i>CDK4, E2F3, MDMX,</i> <i>SIRT1, EMP1,</i> <i>MLLT3, SLC30A3,</i> <i>CTNND2, PLCG1,</i> <i>ACTR1A, CDC25A,</i> <i>ACTR1A, CDC25A,</i> <i>EFNB1, KCNH2,</i> <i>PPP1R10 (+), LYST</i> <i>(+) (qRT-PCR)</i> |
| miR-34a-5p (-) | qRT-PCR | Colon cancer | HEK293T and RKO | Primary human colon cancer tissues | Cell adhesion Proliferation Migration Invasion | Fra-1 (Luciferase reporter assay, Western blot, qRT- PCR) MPP-1, MPP-9, and c-MET (Western blot, qRT-PCR) |

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|---|------------------------------|------------------------------------|--|--------------|--|--|
| miR-34c-5p (-) | qRT-PCR | Colon cancer | HCT-8 | NA | Proliferation Anchorage independent growth, Cell cycle | CDK4, cMyc (Western blot, and qRT-PCR) |
| miR-34a-5p (-) miR-34b-5p (-) miR-34c-5p (-) | qRT-PCR | Gastric cancer | SC-M1, AGS, AZ521, NUGC-3, KATO III, NCI-N87, and SNU-16 | NA | Cell cycle Tumorsphere formation Migration Invasion Tumor Growth in mice | YY1 (Luciferase reporter assay, qRT-PCR, western blot), Plakoglobin (+, 34a, 34b, 34c) E-cadherin (34b, 34c), N-cadherin, Vimentin |
| miR-34a-5p (-) | qRT-PCR, microarray analysis | Glioma | NIH 3T3 and TS543 | NA | Proliferation Cell cycle Apoptosis Tumor Growth in mice | PDGFRA (Luciferase reporter assay, Western blot), NOTCH1 (Western blot) |
| miR-34c-5p (-) | qRT-PCR, | Leukemia | KG-1a, THP-1 and KASUMI-1 | NA | Senescence Apoptosis Cell cycle | E2F3, CDK4, c-Met, c-Myc, cyclin E2, (Western blotting,) |
| miR-34a-5p (-) | qRT-PCR, | Esophageal squamous cell carcinoma | HEK293, EC9706, and TE-1 | ESCC tissues | Migration Invasion | MMP-2, MMP-9, FNDC3B (Luciferase reporter assay, Western blotting, and RT-PCR) |
| miR-34a-5p (-) | qRT-PCR, | Acute Myeloid Leukemia | THP-1 and HS-5 | NA | Apoptosis | Bax (+), BCL2, Cyt C (+), Atg5. LC-3I, LC-3II (Western blotting), HMGB1 (Luciferase reporter assay, Western blotting, RT-PCR) |

Table S1. Validated targets of miR-34 family members. miRNAs in bold were used to elucidated mRNA targets.