Supplementary Material

# **Supplementary table 1:** Functions of miRNAs and their target genes in Th17 cells and autoimmune diseases

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| miRNA | Target(s) | Effect(s) | Experimental system(s) | reference |
| miRNAs promote Th17 cell  |
| miR-155 | Dnaja2, Dnajb1 | Th17↑ | EAE, miR-155-/- mice, transfection experiments with miRNA mimics and antagomirs in vitro | (1) |
| SOCS1 | Th17↑ | colitis mice model, miR-155−/− mice | (2) |
| S1PR1 | Th17 and Tfh↑, IL-21↑ | SLE patients’ PBMC, miR-155-/-*Faslpr/lpr* mice | (3) |
| SHIP | Th17↑, IFN-γ, IL-6↑ | CIA, miR-155−/− mice, transfection experiments with miRNA mimics and antagomirs in vitro | (4) |
| miR-301a | PIAS3 | Th17↑ | EAE, 2D2 mice, Rag-KO mice, transfection experiments with miRNA mimics and antagomirs in vitro | (5) |
| SNIP1 | Th17↑, TNF-α↑ | IBD patients’ PBMC, colitis mouse model, patients’ CD4+ T cell transduced with LV-miR-301a and LV-anti-miR-301a | (6) |
| miR-183-96-182 | Foxo1 | Th17↑ | EAE, miR-183C−/− mice, Il17fcreFoxo1f/f mice, Rag1−/− mice, 2D2 T cell | (7) |
| miR-17~92 | PTEN, IKZF4 | Th17↑ | EAE, colitis mouse model, miR-17-92f/f, Rag2−/− mice, miR-17-92f/f CD4+ T cell | (8) |
| PTEN | Tfh and Th17↑, Treg↓ | miR-17∼92fl/fl mouse, colitis model of Rag1-/- mice | (9) |
| miR-384 | SOCS3 | Th17↑ | EAE, Rag1−/− mice, transfection experiments with LV-miRNA and LV-anti-miRNA in vivo and in vitro | (10) |
| miR-409-3p, miR-1896 | SOCS3 | Th17↑, IL‐1β and IL‐6↑ | EAE, transfection experiments with LV-miRNA and LV-anti-miRNA in vitro | (11) |
| miR-181c | Smad7 | Th17↑ | EAE, transfection experiments with LV-anti-miRNA in vivo and miRNA mimics and antagomirs in vitro | (12) |
| miR-21 | Smad7 | Th17↑ | EAE, miR-21–/–mice, Smad7fl/fl Cd4Cre mice, LNA-anti-miR-21 were administered i.v. to EAE mice | (13) |
| miR-21-5p | IL-10 | Th17↑, Treg↓ | EAU, transfection experiments with LV-anti-miRNA in vivo and in vitro | (14) |
| miR-326 | Ets1 | Th17↑ | MS patients PBMC, EAE, transfection experiments with LV-miRNA and LV-anti-miRNA in vivo and in vitro | (15) |
| miR-34a | Foxp3 | Th17↑, Treg↓, | RA and SLE patients’ PBMC, CIA, miR-34a-transgenic mice, transfection experiments with agomiRNA and antagomiRNA in vitro | (16) |
| AXL | Th17↑ | RA patients’ DC, CIA, miR-34a−/− mice | (17) |
| miR-425 | Foxo1 | Th17↑ | colitis mice model, IBD patients’ PBMC, transfection experiments with LV-miRNA in vitro and LV-anti-miRNA in vivo | (18) |
| miR-223-3p | Foxo3 | Th17↑ | EAU, transfection experiments with miRNA mimics and inhibitor in vitro | (19) |
| miR-873 | Foxo1 | Th17↑ | MRL/lpr mice, SLE patients’ PBMC, transfection experiments with LV-miRNA and LV-anti-miRNA in vitro, LV-anti-miR-873 treatment in vivo | (20) |
| A20 | Th17↑, IL-6, TNF-α↑ | EAE, transfection experiments with miRNA mimics and LNA-anti-miR-873 in vitro and in vivo | (21) |
| miR-326 | ADAM17 | Th17↑ | Hashimoto's thyroiditis patients’ PBMC were transfected with miRNA mimics and inhibitors | (38) |
| miR-210 | STAT3, LYN | Th17 and Th1↑, Th2↓ | psoriasis mice model, miR-210 KO mice, Rag2–/– mice, psoriasis patients’ CD4+ T cell and skin lesion, agomiRNA and antagomiRNA treatment in vivo | (22) |
| miRNAs inhibit Th17 cell |
| miR-210 | Hif1α | Th17↓ | Colitis mice model, miR-210–/–CD4Cre mice, Rag2−/− mice, transfection experiments with miRNA mimics in vitro  | (23) |
| miR-15b | OGT | Th17↓ | EAE, MS patients PBMC, transfection experiments with miRNA mimics in vitro, agomiRNA and antagomiRNA treatment in vivo | (24) |
| miR-20b | STAT3, RORγt | Th17↓ | EAE, transfection experiments with miRNA mimics in vitro and LV-miRNA treatment in vivo | (25) |
| miR-30a | IRF4 | Th17↓ | EAE, MS patients PBMC, agommiRNA and antagomiRNA were transfected to mouse CD4+ T cell, LV-miRNA treatment in vivo | (26) |
| IL-21R | Th17↓ | EAE, LV-miRNA and LV-anti-miRNA treatment in vivo, LV-miRNA and LV-anti-miRNA transfected to mouse CD4+ T cell | (27) |
| miR-1299, miR-30a-5p | IL-6R, gp130 | Th17↓ | CD4+ T cell from umbilical cord blood, transfection experiments with miRNA mimics in vitro | (28) |
| miR-146 | TRAF6, IRAK1 | Th17↓, IFN-γ, IL-6, IL-21↓ | EAE, miR-146a–/– mice, 2D2/miR-146a–/– mice, RAG1–/– mice | (29) |
| miR-219a-5p | ETV5 | Th17 and Th1↓ | colitis mouse model, IBD patients’ inflamed mucosa, IBD patients’ CD4+ T cell transfected with LV-miRNA and LV-anti-miRNA | (30) |
| miR-29-3p, miR-93-5p | T-bet, STAT3 | Th1, Th17↓ | CIA, mouse CD4+ T cell were transfected with miRNA mimics and inhibitors | (31) |
| miR-29 | IL-12/IL-23p40 | Th17↓ | colitis mouse model, miR-29 KO mice, DCs transfected with miRNA mimic and inhibitors  | (32) |
| miR-125a | Ets1 | Th17 and Th1↓ | TNBS-induced colitis mice, miR-125a−/− mice, IBD patients’ PBMC, human CD4+ T transfected with LV-miRNA and LV-anti-miRNA | (33) |
| miR-183 | mTOR | Th17↓, Treg↑ | MRL/lpr mice mouse CD4+ T cell transfected with miRNA mimics | (34) |
| miR-101-3p | HDAC9 | Th17↓ | SLE patients’ PBMC were transfected with miRNA mimics and inhibitors | (35) |
| miR-340 | IL-17A | Th17↓ | Mouse naive CD4+ T cell were transfected with miRNA mimics, treatment of agomir-miRNA in psoriasis mice | (36) |
| miR-18a | Smad4, Hif1a, RORa | Th17↓ | T cell-specific miR-17∼92-deficient mice, miR-18Δ/Δ CD4+ T, miR-17∼92Δ/ΔSmad4Δ/+ T cell, mouse CD4+ T cell were transfected with miRNA mimics and inhibitors | (37) |
| miR-1922 | IL-17 | Th17↓ | delayed-type hypersensitivity mouse model, mouse T cell transfected with miRNA mimics and inhibitors | (38) |

EAE: experimental autoimmune encephalomyelitis; SLE: Systemic lupus erythematosus; PBMC: peripheral blood mononuclear cell; EAU: Experimental Autoimmune Uveitis; CIA: collagen induced arthritis; DC: dendritic cell; IBD: inflammatory bowel disease; KO: knockout.

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