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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Previous ID** | **Mature Name** | **Accession #** | **Mature sequence** | **Chr** | **Target** | **Function** | | **References** | |
| hsa-let-7e-5p | hsa-let-7e-5p | MIMAT0000066 | UGAGGUAGGAGGUUGUAUAGUU | Chr19 | *TLR4*  *CD14*; *TNFA;* *IL-6* | Negative regulator of  NF-κB pathway | | (Kumar et al. 2015, Ren and Ambros 2015, Curtale et al. 2018) | |
| hsa-mir-16-1\* | hsa-mir-16-1-3p | MIMAT0004489 | CCAGUAUUAACUGUGCUGCUGA | Chr13 | NF-κB1; IL6; CXCL8; TNF; TAB2 | Inhibition of NF-κB pathway. Suppression of pro-inflammatory cytokine responses. Regulate leukocyte recruitment | | miRTarBase (prediction) | |
| hsa-miR-25-3p | hsa-miR-25-3p | MIMAT0000081 | CAUUGCACUUGUCUCGGUCUGA | Chr7 | *TLR4* | Inhibition NLRP3/IL-1β/IL-8 pathway | | (Luo et al. 2022) | |
| hsa-miR-28-5p | hsa-miR-28-5p | MIMAT0000085 | AAGGAGCUCACAGUCUAUUGAG | Chr3 | IRAK4; *N4BP1; IRF* | Inhibition of NF-κB pathway. Modulation of macrophage polarization  Regulation of TLR and type I IFN pathway | | Target Scan (Prediction) | |
| hsa-miR-29a | hsa-miR-29a-3p | MIMAT0000086 | UAGCACCAUCUGAAAUCGGUUA | Chr7 | *T-BET*, *EOMES*, *IFNG; NFIA; GPR85; SOCS-1; PI3K* | Promote M2 macrophage polarization  Modulation of Interferon signaling pathway  Suppression of IFNγ production | | (Yao et al. 2025) | |
| hsa-miR-29b-1 | hsa-miR-29b-1-5p | MIMAT0004514 | GCUGGUUUCAUAUGGUGGUUUAGA | Chr7 | *PTX3; DNMT3A; DNMT3B; STAT3;  NF-κB* | Regulation of inflammatory response (anti-inflammatory effect) | | (Ma et al. 2011, Botta et al. 2018, Abdalla et al. 2023) | |
| hsa-miR-29b-2 | hsa-miR-29b-2-5p | MIMAT0004515 | CUGGUUUCACAUGGUGGCUUA | Chr1 | *C1QTNF6* | Inhibition of inflammatory responses by suppression CRP, IL-IL-6 and TNFα | | (Botta et al. 2018, Ma et al. 2022, Abdalla et al. 2023) | |
| hsa-miR-29c | hsa-miR-29c-3p | MIMAT0000681 | UAGCACCAUUUGAAAUCGGUUA | Chr1 | *TNFAIP3; TGFBR2; STAT3; SP1* | Negative regulation of NF-κB and cytokines signaling. Modulation of macrophage activation. | | (Abdalla et al. 2023) | |
| hsa-miR-29b-3p | hsa-miR-29b-3p | MIMAT0000100 | UAGCACCAUUUGAAAUCAGUGUU | Chr7 | *TGFBR1 / TGFBR2; STAT3; SP1; TLR2; IL23A* | Modulation of cytokine production. Inhibition of PRR signaling | | (Ma et al. 2011) | |
| hsa-miR-30e | hsa-miR-30e-5p | MIMAT0000692 | UGUAAACAUCCUUGACUGGAAG | Chr1 | *SOCS; TRIM38;* | Negative regulator of RIG-1 signaling  Inhibition JAK/STAT signaling.  Positive regulator of innate immune signaling | | (Lin et al. 2020, Mishra et al. 2020) | |
| hsa-miR-33a-5p | hsa-miR-33a-5p | MIMAT0000091 | GUGCAUUGUAGUUGCAUUGCA | Chr22 | *IRAK1; STING;*  *ABCA1, NLRP3* | TLR/IL-1R signaling  Pro-inflammatory effect | (Nejad et al. 2018) | |
| hsa-miR-125b-1 | hsa-miR-125b-1-3p | MIMAT0004592 | ACGGGUUAGGCUCUUGGGAGCU | Chr11 | *TNFA; TRAF6; A20; IRF4* | Modulation of macrophage activation  Negative co-regulator of inflammatory genes | (Tili et al. 2007, Chaudhuri et al. 2011, Valmiki et al. 2019) | |
| hsa-miR-146a-5p | hsa-miR-146a-5p | MIMAT0000449 | UGAGAACUGAAUUCCAUGGGUU | Chr5 | *TRAF6,*  *IRAK1* | Negative regulator of inflammation | (Taganov et al. 2006, Saba et al. 2014) | |
| hsa-miR-148a | hsa-miR-148a-3p | MIMAT0000243 | UCAGUGCACUACAGAACUUUGU | Chr7 | *Notch*  *PTEN* | Promote M1 macrophage polarization | (Huang et al. 2017) | |
| hsa-miR-150 | hsa-miR-150-5p | MIMAT0000451 | UCUCCCAACCCUUGUACCAGUG | Chr19 | *STAT1* | Anti-inflammatory effect | (Chen et al. 2021) | |
| hsa-miR-155 | hsa-miR-155-5p | MIMAT0000646 | UUAAUGCUAAUCGUGAUAGGGGUU | Chr21 | *TAB2, MyD88, IKKε, Ripk1, C/EBPβ, eNOS, p65, SHIP1, SOCS1* | Regulation of inflammatory cytokines production | (Ceppi et al. 2009, Li et al. 2022, Abdalla et al. 2023) | |
| hsa-miR-192 | hsa-miR-192-5p | MIMAT0000222 | CUGACCUAUGAAUUGACAGCC | Chr11 | *CXCL2; IL-1RI;* | Regulation of chemokine production and cytokine signaling | (Raisch et al. 2013, Ren et al. 2021) | |
| hsa-miR-193 | hsa-miR-193a-3p | MIMAT0000459 | AACUGGCCUACAAAGUCCCAGU | Chr17 | *TNFRSF21; IL6ST; VNN1; FADS1* | Modulation of NF-κB pathway; Regulation of IL-6 signaling; Macrophage polarization | (Chen et al. 2017, Gong et al. 2023) | |
| hsa-miR-223 | hsa-miR-223-3p | MIMAT0000280 | UGUCAGUUUGUCAAAUACCCCA | ChrX | *NLRP3; STAT3; RhoB; IRAK1; FOXO3; IKKα* | Inhibition of inflammasome activation; modulation of cytokines production; Attenuation of TLR/IL-1R signaling | (Yuan et al. 2018, Yuan et al. 2021) | |
| hsa-miR-365a-5p | hsa-miR-365a-5p | MIMAT0009199 | AGGGACUUUUGGGGGCAGAUGUG | Chr16 | *IL-6; BCL2; BAX; ARRB2* | Regulation of cytokines production; modulation of apoptosis; T cell migration ; chemotactic responses | (Davuluri and Chauhan 2022, Wang et al. 2022) | |
| hsa-miR-382 | hsa-miR-382-5p | MIMAT0000737 | GAAGUUGUUCGUGGUGGAUUCG | Chr14 | *CDK8; CXCL12; PGC-1α* | Modulation of macrophage polarization and immune cell recruitment | (Lv et al. 2021) | |
| hsa-miR-451 | hsa-miR-451a | MIMAT0001631 | AAACCGUUACCAUUACUGAGUU | Chr17 | *MIF; CAB39; CXCL16; ATF2* | Suppress of pro-inflammatory cytokines production; regulation of macrophages polarization and migration | (Bandres et al. 2009, Rosenberger et al. 2012) | |
| hsa-miR-532 | hsa-miR-532-5p | MIMAT0002888 | CAUGCCUUGAGUGUAGGACCGU | ChrX | *IRAK1, TRAF6* | Regulation of NF-κB pathway | (Li et al. 2022) | |
| hsa-miR-590 | hsa-miR-590-5p | MIMAT0003258 | GAGCUUAUUCAUAAAAGUGCAG | Chr7 | *SMAD3* | Negative regulation of TGFβ signaling pathway | (Jafarzadeh and Soltani 2016) | |
| hsa-miR-660 | hsa-miR-660-5p | MIMAT0003338 | UACCCAUUGCAUAUCGGAGUUG | ChrX | *MDM2*  *and p53* | Indirectly negative regulation of NFκB pathway | (Lin et al. 2023, Wang et al. 2025) | |
| hsa-miR-885-5p | hsa-miR-885-5p | MIMAT0004947 | UCCAUUACACUACCCUGCCUCU | Chr-3 | *SOCS* | Regulation of NF-κB pathway  Modulation of TLR signaling  Inhibition of cytokine signaling | (Su et al. 2018, Zhang et al. 2020, Sun et al. 2022) | |

**Table S1. List of human microRNAs used in the experiments**

The twenty-six microRNAs were selected by searching MEDLINE, Scopus and Web of Science libraries for scientific journal publications between 1 January 2010 and 31 December 2016. The microRNA sequence, accession number and chromosomal loci were obtained from the miRbase online resource for human microRNA sequence and annotation (v 22.1) (http://mirbase.org/).

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