

**Supplementary Table 1. Major AD risk genes and their target analysis for 8 specific miRNAs.**

Major AD Risk genes	miRNAs
Beta-secretase 1 (BACE1)	miR-9-5p, miR-107, miR-135b-5p, miR-210-3p, miR-29a-5p, miR-106b-5p, miR-132-5p
Amyloid precursor protein (APP)	miR-9-5p, miR-106b-5p, miR-107, miR-9-5p, miR-29a-5p, miR-135b-5p, miR-210-3p
Bleomycin hydrolase (BLMH)	miR-107, miR-9-5p, miR-106b-5p, miR-125b-5p, miR-135b-5p, miR-210-3p
Nitric oxide synthase 3 (NOS3)	miR-107, miR-210-3p
PAX-interacting protein 1 (PAXIP1)	miR-9-5p, miR-106b-5p, miR-125b-5p, miR-135b-5p, miR-210-3p
Plasminogen activator urokinase (PLAU)	miR-125b-5p, miR-135b-5p, miR-210-3p
Presenilin-1 (PSEN1)	miR-9-5p, miR-135b-5p, miR-16b-5p, miR-107, miR-125b-5p, miR-210-3p
Presenilin-2 (PSEN2)	miR-107, miR-125b-5p, miR-135b-5p
CUGBP, elav-like family member 1 (CELF1)	miR-210-3p, miR-9-5p, miR-106b-5p, miR-107, miR-125b-5p, miR-135b-5p
Fermitin family homolog-2 (FERMT2)	miR-107, miR-135b-5p, miR-29a-5p, miR-106b-5p, miR-132-5p, miR-210-3p
Amyloid beta precursor protein binding family B member 2 (APBB2)	miR-106b-5p, miR-9-5p, miR-29a-5p, miR-107, miR-125b-5p, miR-135b-5p, miR-210-3p
Myocyte enhancer factor 2C (MEF2C)	miR-135b-5p, miR-9-5p, miR-210-3p, miR-29a-5p, miR-106b-5p, miR-107, miR-125b-5p
CD2-associated protein (CD2AP)	miR-29a-5p, miR-9-5p, miR-106b-5p, miR-107, miR-125b-5p, miR-135b-5p, miR-210-3p
ADAM metalloproteinase with thrombospondin type 1 motif 4 (ADAMTS4)	miR-125b-5p
Complement receptor type 1 (CR1)	miR-9-5p, miR-29a-5p, miR-106b-5p, miR-107, miR-210-3p
Bridging Integrator 1 (BIN1)	miR-9-5p, miR-210-3p
HESX homeobox 1 (HESX1)	miR-106b-5p
Heparan sulfate-glucosamine 3-sulfotransferase 1 (HS3ST1)	miR-9-5p, miR-106b-5p, miR-125b-5p, miR-210-3p
Major histocompatibility complex, class II, DR beta 1 (HLA-DRB1)	miR-125b-5p, miR-210-3p
Triggering receptor expressed on myeloid cells 2 (TREM2)	miR-210-3p
EPH receptor A1 (EPHA1)	miR-107, miR-125b-5p
Contactin associated protein 2 (CNTNAP2)	miR-9-5p, miR-106b-5p, miR-107, miR-125b-5p, miR-135b-5p
Enoyl-CoA hydratase domain containing 3 (ECHDC3)	miR-135b-5p
Membrane spanning 4-domains A6A (MS4A6A)	miR-125b-5p
Phosphatidylinositol binding clathrin assembly protein (PICALM)	miR-9-5p, miR-106b-5p, miR-107, miR-210-3p
Sortilin related receptor 1 (SORL1)	miR-106b-5p, miR-135b-5p, miR-9-5p, miR-107, miR-125b-5p, miR-210-3p
Solute carrier family 24 member 4 (SLC24A4)	miR-132-5p, miR-9-5p, miR-29a-5p, miR-16b-5p, miR-107, miR-135b-5p
A disintegrin and metalloproteinase domain 10 (ADAM10)	miR-9-5p, miR-29a-5p, miR-106b-5p, miR-107, miR-125b-5p, miR-135b-5p, miR-210-3p
Aph-1 homolog B, gamma-secretase subunit (APH1B)	miR-9-5p, miR-107, miR-125b-5p
ABI family member 3 (ABI3)	miR-107
Alpha kinase 2 (ALPK2)	miR-125b-5p, miR-135b-5p
ATP binding cassette subfamily A member 7 (ABCA7)	miR-135b-5p
Cluster of differentiation 33 (CD33)	miR-9-5p
Angiotensin I converting enzyme (ACE)	miR-107, miR-125b-5p, miR-135b-5p, miR-210-3p
Desmoglein 2 (DSG2)	miR-9-5p, miR-106b-5p, miR-107, miR-125b-5p, miR-132-5p, miR-135b-5p, miR-210-3p
Clusterin (CLU)	miR-107, miR-125b-5p, miR-210-3p
Inositol polyphosphate-5-phosphatase D (INPP5D)	miR-210-3p, miR-29a-5p
Protein tyrosine kinase 2 beta (PTK2B)	miR-9-5p, miR-125b-5p, miR-132-5p, miR-135b-5p, miR-210-3p