

# Supplementary Information

## **MicroRNA Profiles in Monocyte-derived Macrophages Generated by Interleukin-27 and Human Serum: Identification of a Novel HIV-inhibiting and Autophagy-inducing MicroRNA**

Tomozumi Imamichi, Suranjana Goswami, Xiaojun Hu,  
Jun Yang, Sylvain Laverdure, Ju Qiu, Qian Chen,  
Brad T. Sherman, and Weizhong Chang

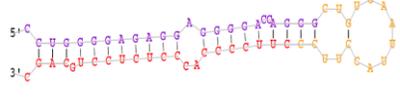


## S. Figure S1. (continued)

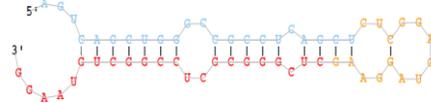
miRAB23



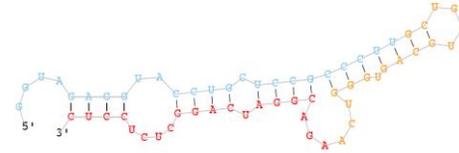
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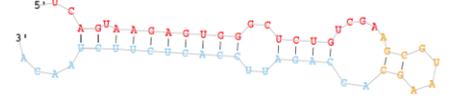
miRAB25



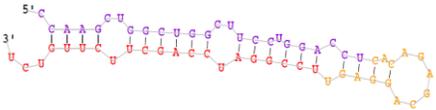
miRAB26



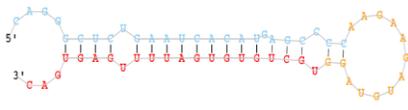
miRAB27



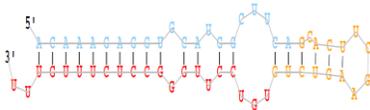
miRAB28



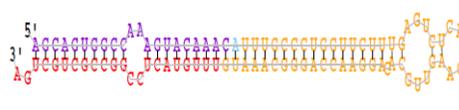
miRAB29



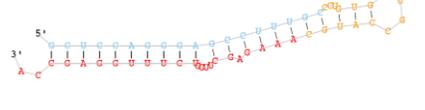
miRAB30



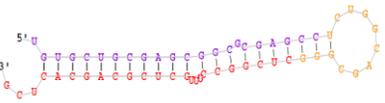
miRAB31



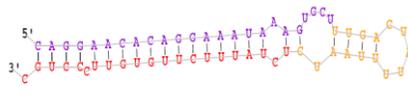
miRAB32



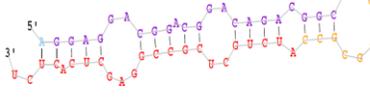
miRAB33



miRAB34



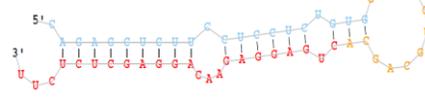
miRAB35



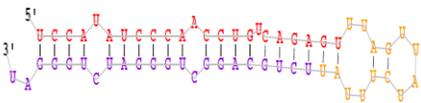
miRAB36



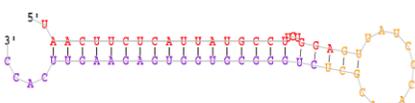
miRAB37



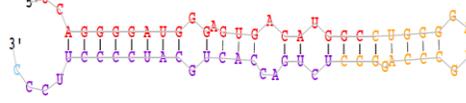
miRAB39



miRAB40

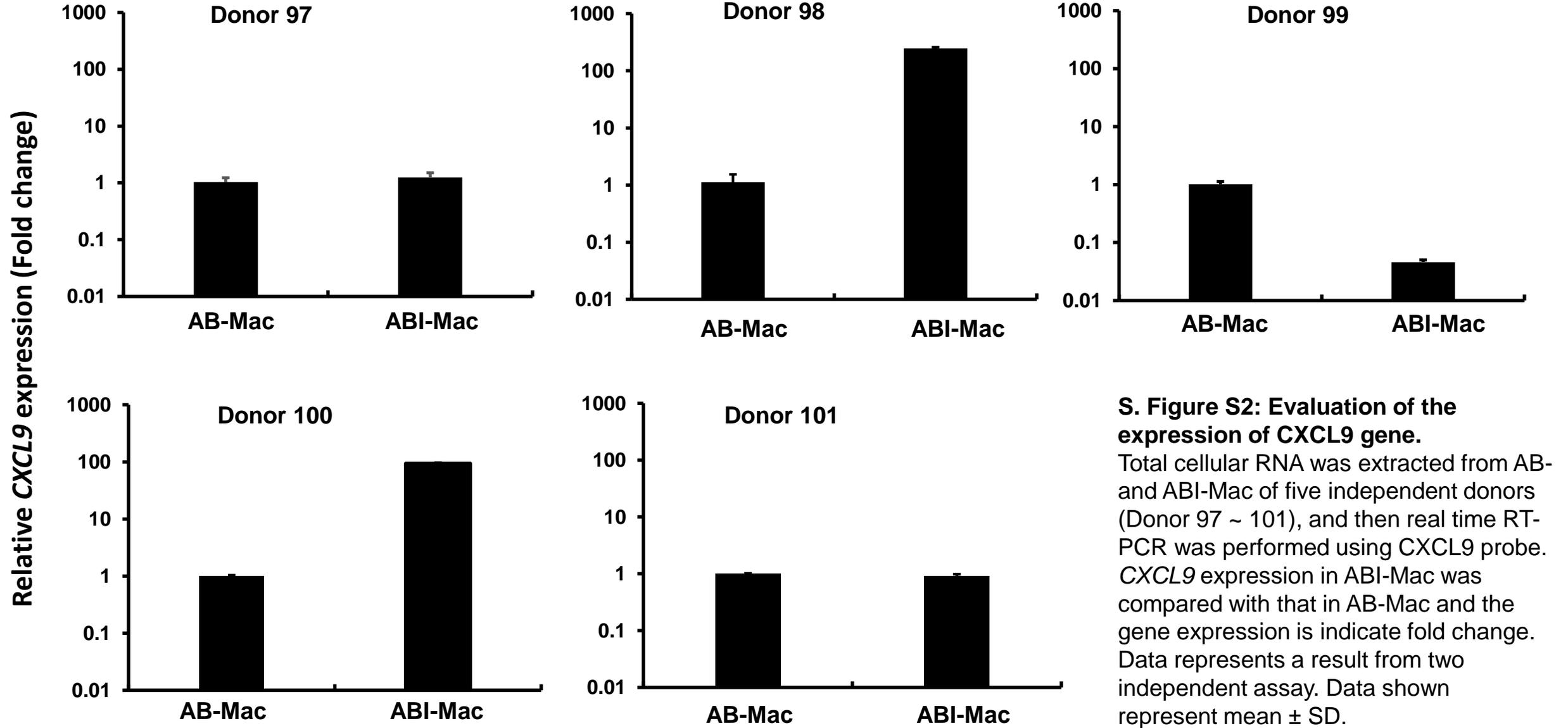


miRAB41

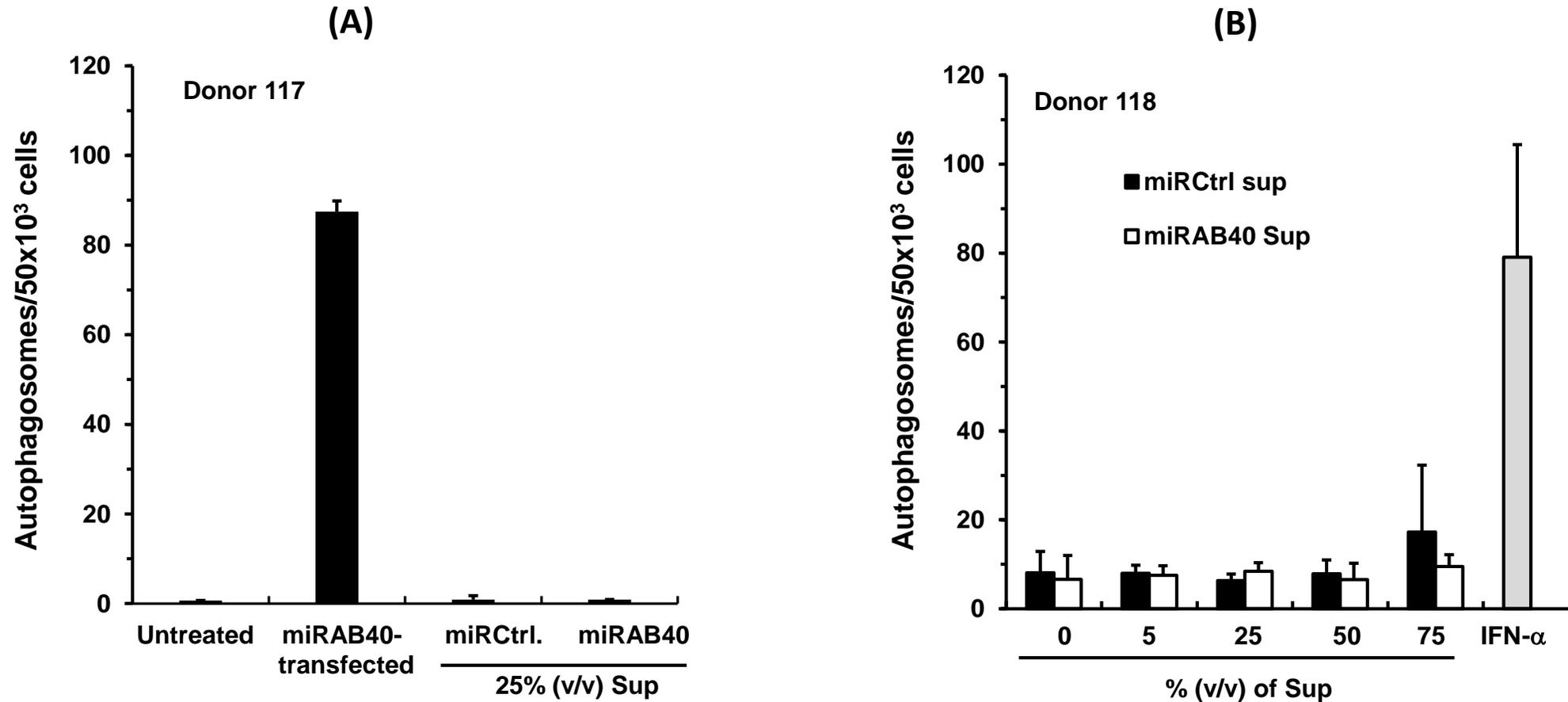


**S. Fig 1.** Secondary structures of the novel miRNAs. All novel miRNAs were able to form stem-loop hairpin structures. Red indicates the mature sequence; blue indicates the star sequence; yellow indicates loop structure, purple indicates star sequence.

## S. Figure S2

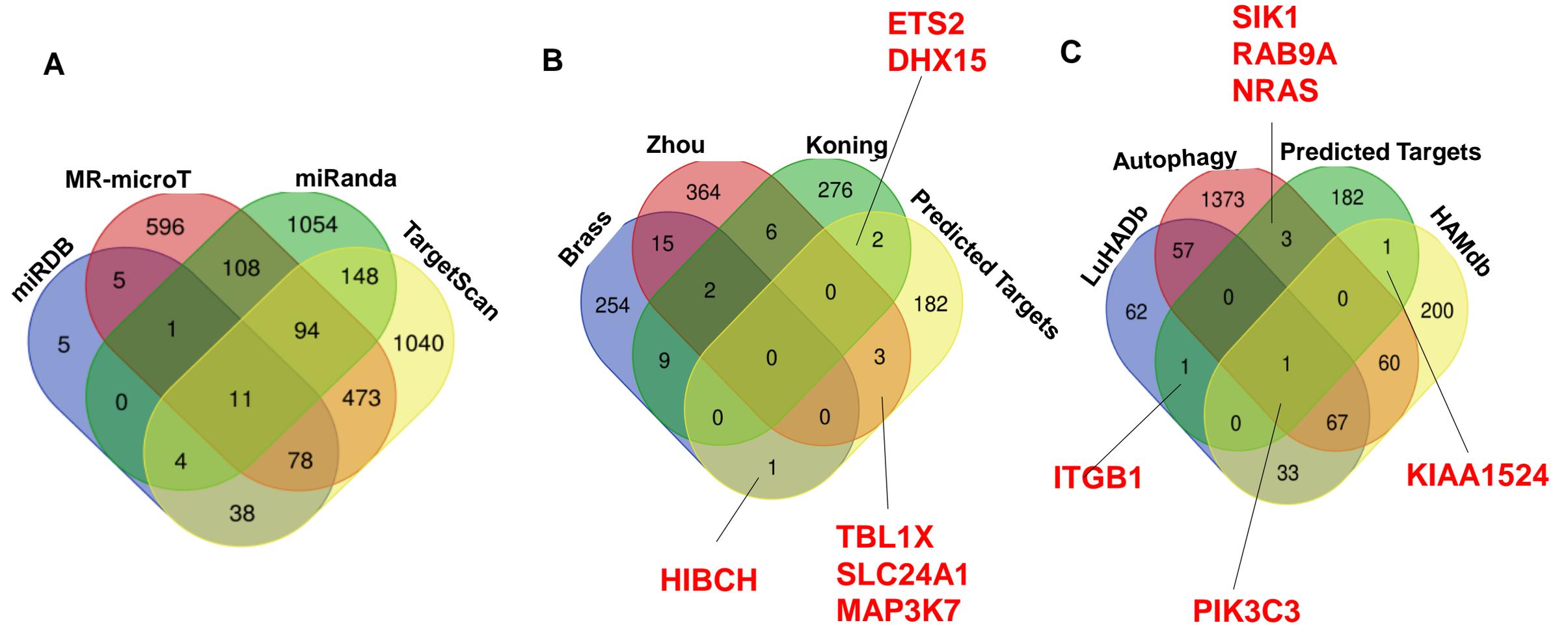


### S. Figure S3



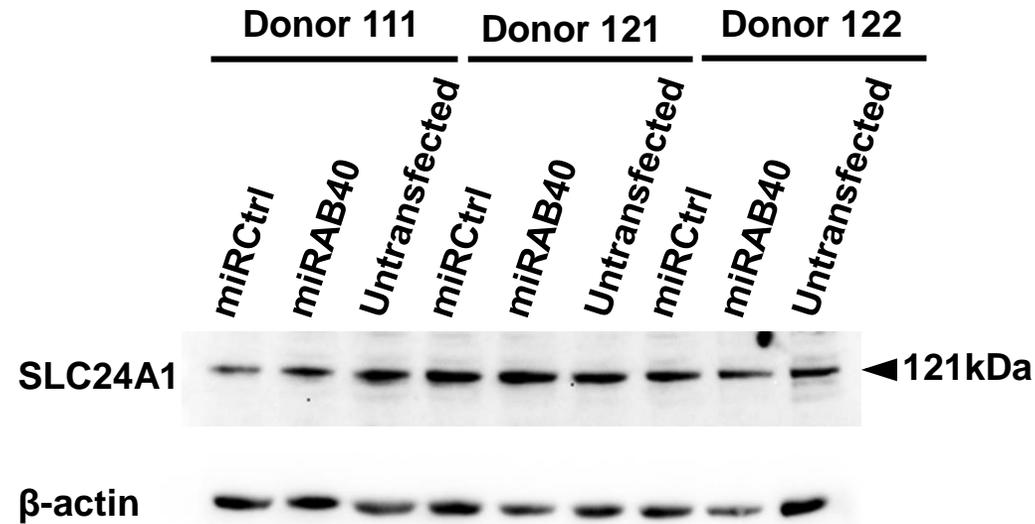
**S.Fig. S3. Impact of culture supernatants on autophagy induction.** Fresh M-Macs from two independent donors (Donor 117 and 118) were cultured with 25 (v/v) % (A) or with 0 - 75% (v/v) (B) of cell-free culture supernatants derived from miRCtrl- or miRAB40-transfected cells (Donor 111) three days. Autophagosome induction was quantified as described in the Materials and Methods. As a positive control, miRAB40-transfected (A) and IFN (100 units/ml) treated M-Macs were included in the assays. Data presents mean  $\pm$  SD ( $n=3$ )

S. Figure S4



**S. Figure S4. Target prediction analysis of miRAB40.** (A) Target prediction analysis for miRAB40 were performed using miRDB, MR-microT, miRanda, and Target Scan as described in the Materials and Methods. To identify commonly predicted target genes, Venn diagram analysis was performed. (B, C) The predicted genes of miRAB40 were compared with HDFs (B) or autophagy data bases (C). The genes overlapped with the predicted target genes and each data base are listed in the diagrams.

## S. Figure S5



**S. Figure 5. Western blot analysis of SLC24A1 expression.** M-Macs from three different donors (Donor 111, 121, 122) were transfected with miRCtrl or miRAB40 and cultured for three days. Cell lysates were made with radioimmune precipitation assay buffer (Boston Biology), and protein amounts were quantified using the BCA protein assay kit (Thermo Fisher). A total of 20  $\mu$ g of cellular protein was separated on a 4–12% Bis-Tris gel (Thermo Fisher) in MOPS running buffer (Thermo Fisher) and Western blot was performed with anti-SLCA24A1 antibody (Cat# NBP2-20384, Novus biologicals, Littleton, CO, USA). As an internal loading control, anti-b actin (Sigma Aldrich) was used. Protein bands were detected with ECL plus Western blotting detection reagents (GE Healthcare).

S. Figure S5 original

miRAB40 anti-HIV related

