Integrated analysis of Single-cell RNA-seq,Mendelian randomization and eQTL reveals immune cell-related nomogram model and subtypes in periodontitis

Running title: Immune Cell Subtypes and Nomogram Model in Periodontitis

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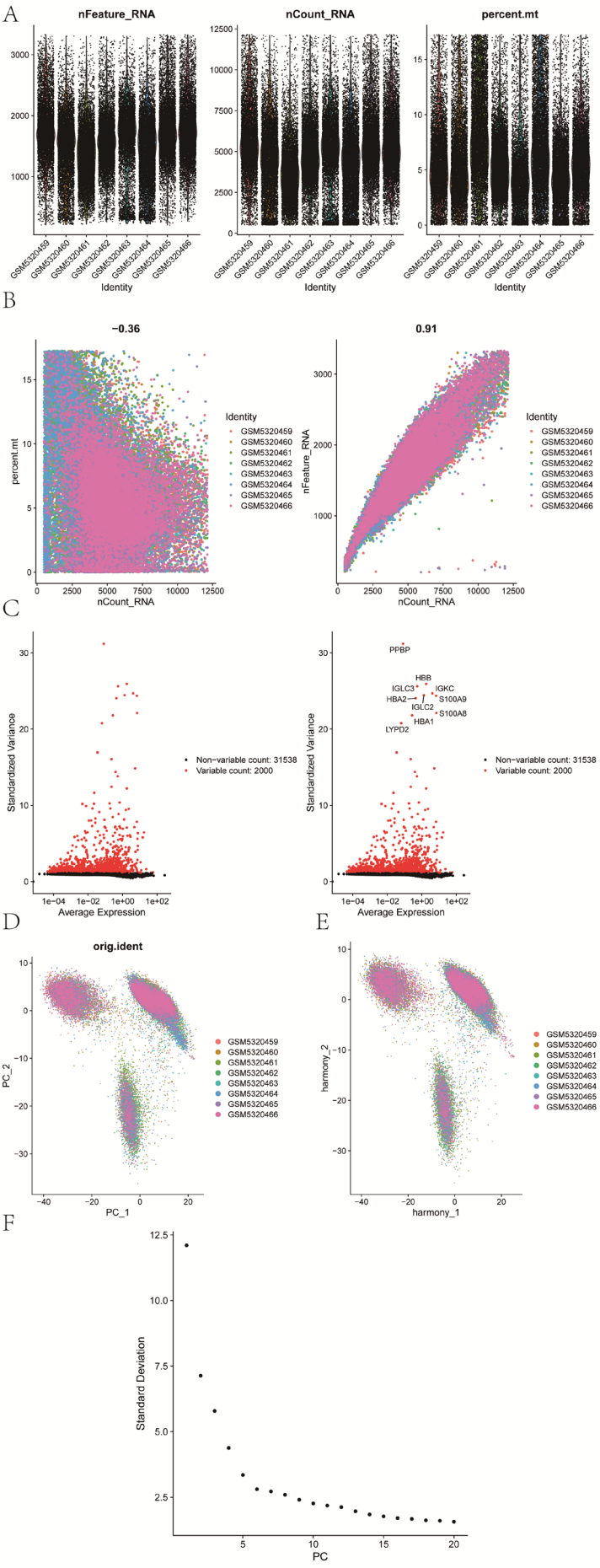
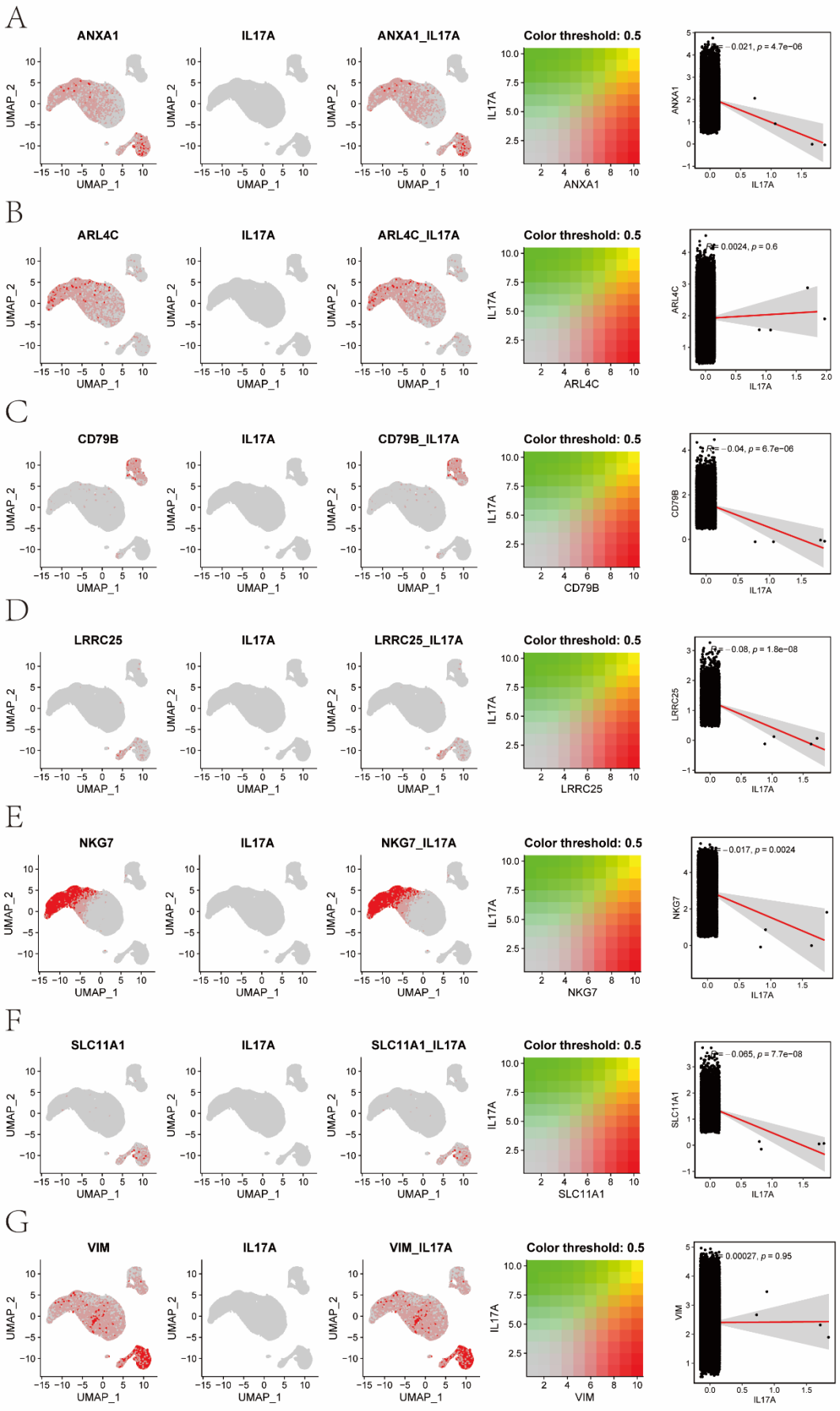
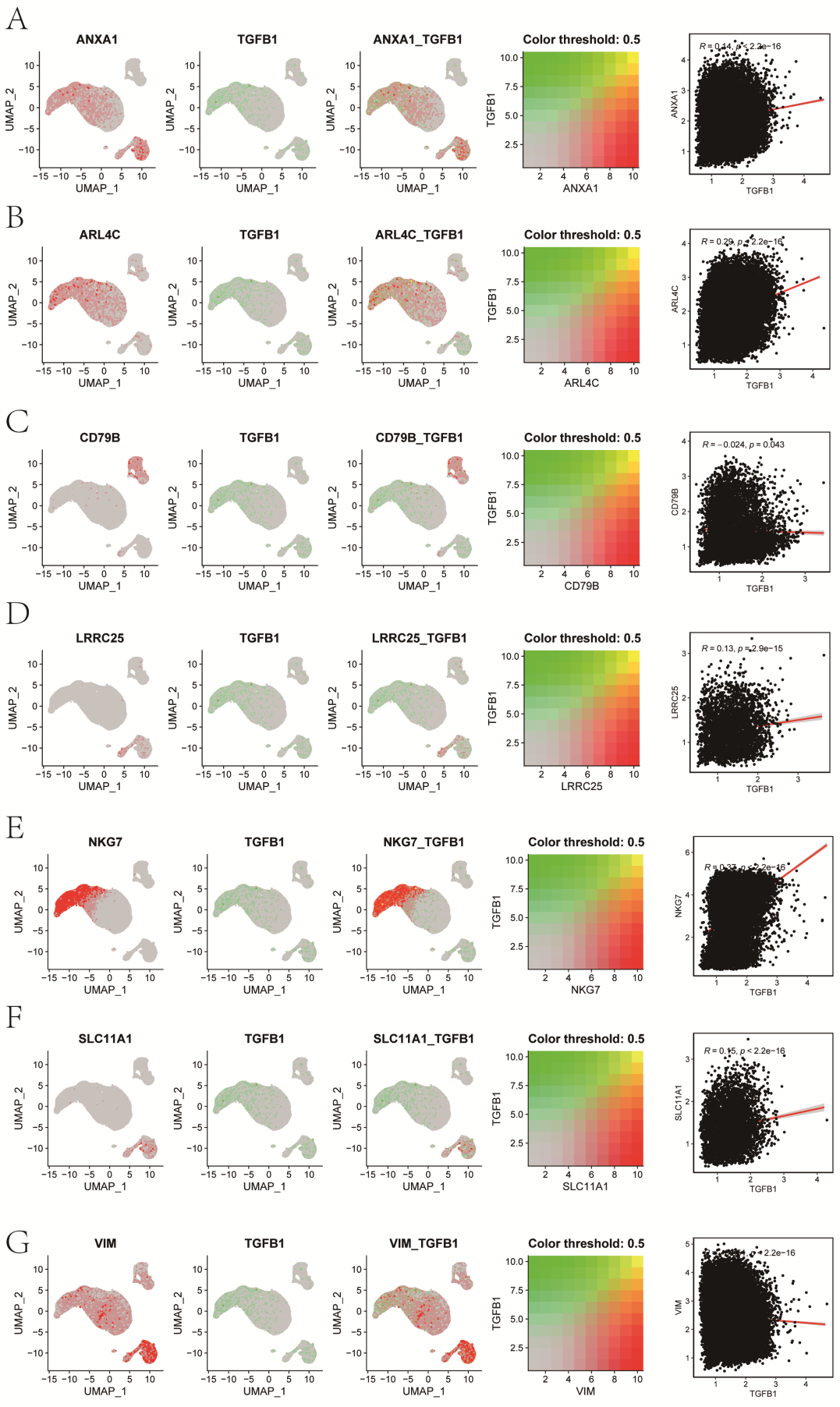

A
nFeature_RNA
nCount_RNA
percent.mt
GSM5320459
GSM5320460
GSM5320461
GSM5320462
GSM5320463
GSM5320464
GSM5320465
GSM5320466
Identity
B
−0.36
0.91
percent.mt
nFeature_RNA
nCount_RNA
Identity
C
Standardized Variance
Average Expression
Non−variable count: 31538
Variable count: 2000
PPBP
HBB
IGLC3
IGKC
HBA2
S100A9
IGLC2
S100A8
HBA1
LYPD2
D
orig.ident
PC_1
PC_2
E
harmony_1
harmony_2
F
Standard Deviation
PC

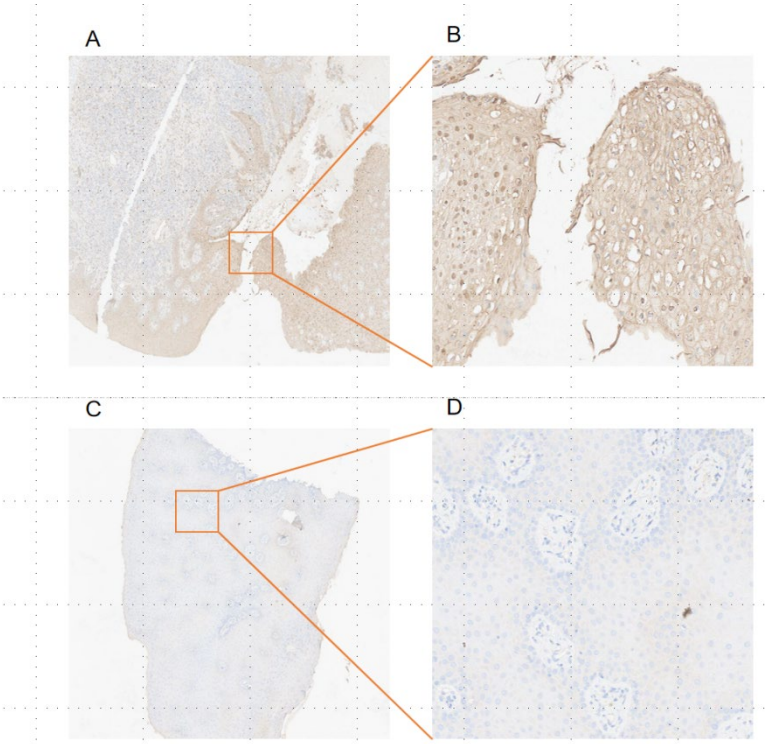
S1 Fig. sc-RNA seq analysis and DEGs analysis.(A)DEGs expression in datasets. (B)Scatter plot of DEGs count vs. feature. (C)Volcano plot of DEGs in datasets. (D) and (E)Screening of differentially expressed DEGs in datasets. (F)Analysis of various soft-thresholding pewers.


A
ANXA1
IL17A
ANXA1_IL17A
Color threshold: 0.5
R = −0.021, p = 4.7e−06
B
ARL4C
IL17A
ARL4C_IL17A
Color threshold: 0.5
R = 0.0024, p = 0.6
C
CD79B
IL17A
CD79B_IL17A
Color threshold: 0.5
R = −0.04, p = 6.7e−06
D
LRRC25
IL17A
LRRC25_IL17A
Color threshold: 0.5
R = −0.08, p = 1.8e−08
E
NKG7
IL17A
NKG7_IL17A
Color threshold: 0.5
R = −0.017, p = 0.0024
F
SLC11A1
IL17A
SLC11A1_IL17A
Color threshold: 0.5
R = −0.065, p = 7.7e−08
G
VIM
IL17A
VIM_IL17A
Color threshold: 0.5
R = 0.00027, p = 0.95
UMAP_1
UMAP_2
IL17A
ANXA1
ARL4C
CD79B
LRRC25
NKG7
SLC11A1
VIM

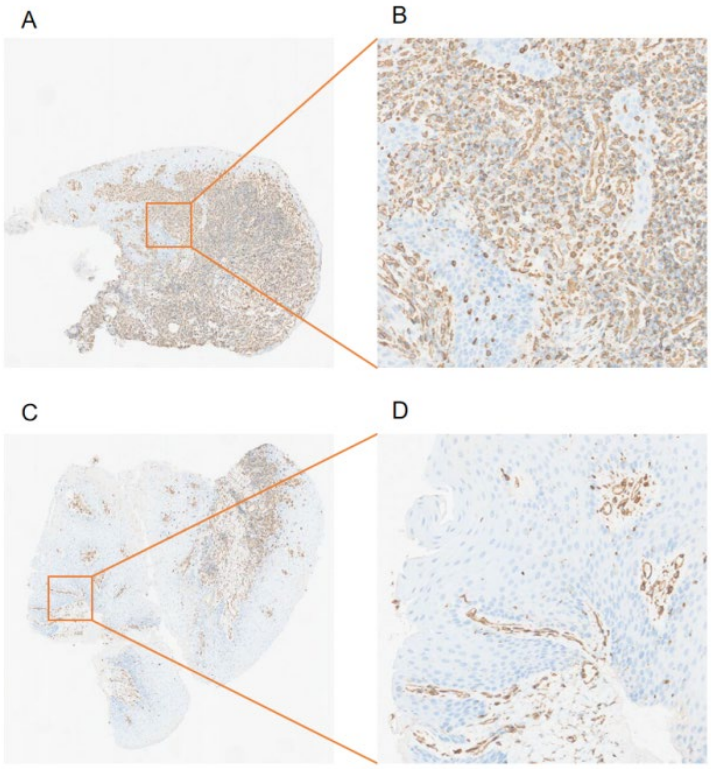
S2 Fig. Correlationship between hub genes and IL17A. (A~G) Correlations between TGF-ß and hub genes(ANXA1, ARL4C, CD79B, LRRC25, NKG7, SLC11A1, and VIM)


A
ANXA1
TGFB1
ANXA1_TGFB1
Color threshold: 0.5
R = 0.14, p < 2.2e−16
B
ARL4C
TGFB1
ARL4C_TGFB1
Color threshold: 0.5
R = 0.29, p < 2.2e−16
C
CD79B
TGFB1
CD79B_TGFB1
Color threshold: 0.5
R = −0.024, p = 0.043
D
LRRC25
TGFB1
LRRC25_TGFB1
Color threshold: 0.5
R = 0.13, p = 2.9e−15
E
NKG7
TGFB1
NKG7_TGFB1
Color threshold: 0.5
F
SLC11A1
TGFB1
SLC11A1_TGFB1
Color threshold: 0.5
R = 0.15, p < 2.2e−16
G
VIM
TGFB1
VIM_TGFB1
Color threshold: 0.5
p < 2.2e−16
UMAP_1
UMAP_2

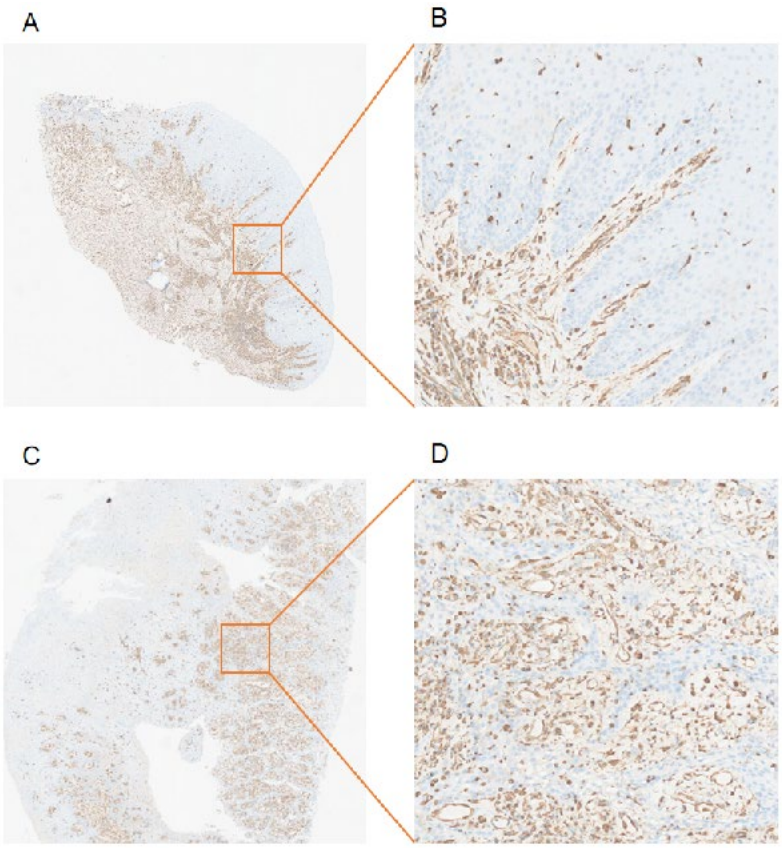
S3 Fig. Correlationship between hub genes and TGF-ß. (A~G) Correlations between TGF-ß and hub genes(ANXA1, ARL4C, CD79B, LRRC25, NKG7, SLC11A1, and VIM)



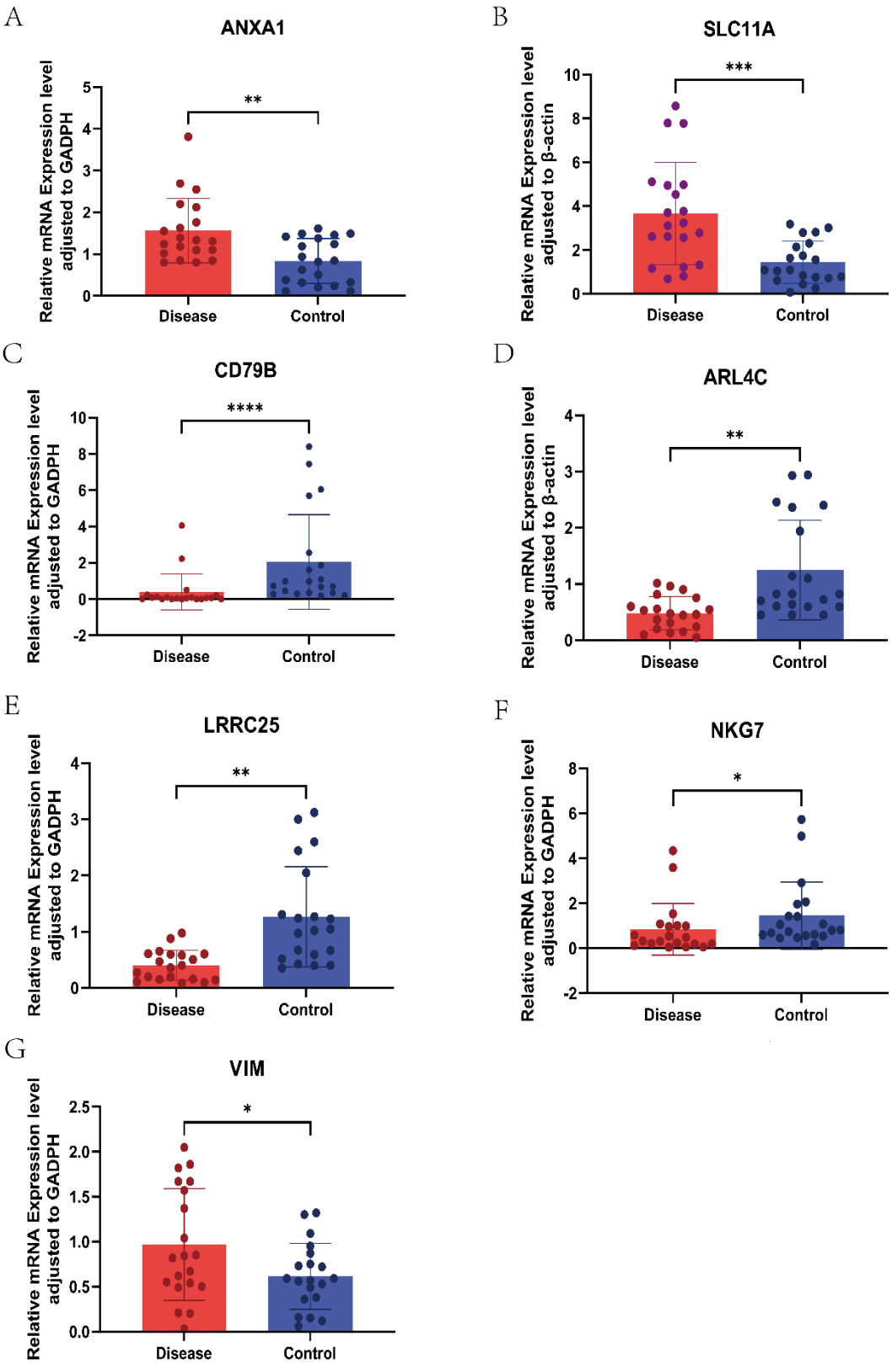
S4 Fig. Expression of ANXA1 protein in periodontitis tissues and normal gingival tissues.A. Periodontitis tissue (×10);B. Periodontitis tissue (×40);C. Normal gingival tissue (×10);D. Normal gingival tissue (×40).



S5 Fig. Expression of SLC11A1 protein in periodontitis tissues and normal gingival tissues. A. Periodontitis tissue (×10); B. Periodontitis tissue (×40);C. Normal gingival tissue (×10); D. Normal gingival tissue (×40).



S6 Fig. Expression of CD79B protein in periodontitis tissues and normal gingival tissues.A. Periodontitis tissue (×10);B. Periodontitis tissue (×40);C. Normal gingival tissue (×10);D. Normal gingival tissue (×40).



S7 Fig. Transcriptional levels of Genes mRNA in gingival tissues