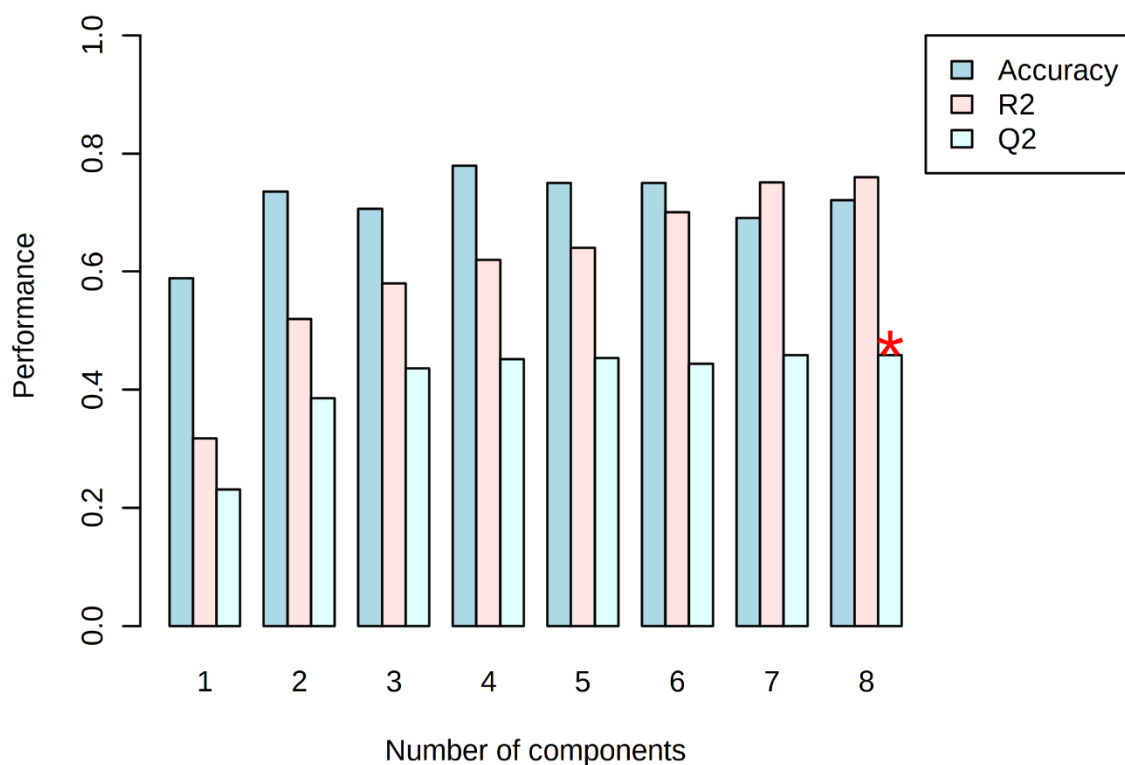


1 Supplementary material



Supplemental figure 1 The performance of the PLS-DA model as evaluated by LOOCV.

Supplementary table 1 TFs binding to the GPR84 regulatory region according to Chip hits from the ENCODE and Signalling Pathways Project (SPP) databases.

ENCODE hits for GPR84	SPP hits all cells	SPP hits immune cells	Overlap ENCODE and all SPP hits
ATF2	FOS 4HT	CTCF	ATF2
BCLAF1	JUN DEX	RUNX1	CEBPB
CEBPB	CTCF	NFYB	CTCF
CHD4	E2F4 4HT	MYB	EBF1
CTCF	IRF1	STAT1 IFNG	FOXM1
EBF1	RUNX1	GABPA	IKZF1

EZH2	GATA3	ETS1	MAX
FOXM1	MAX	SPI1	MEF2A
H2AFZ	CEBPB	CEBPA	MTA3
HDAC2	NFYB	USF1	MYC
IKZF1	MYB	MAX	NFYB
MAFK	STAT1 IFNG	SP1	SPI1
MAX	GABPA	GATA1	STAT3
MEF2A	TCF12	STAT3	STAT5A
MTA3	CREB1	FOXM1	TBP
MYC	ETS1	STAT5A	ZNF384
MYOG	SPI1	E2F4	MAFK
NFIC	CEBPA	BHLHE40	
NFYB	HEYL	PAX5	
PML	ELF3	FOSL1	
POLR2A	USF1	YY1	
RBBP5	GATA4	IRF1 IFNG	
RUNX3	FOXA1	RELA BAY082	
SPI1	FOXA1 CREB1	TFAP4	
STAT1	JUND	MYC IFNA1	
STAT3	FOSL2	MAZ	
STAT5A	SP1	MXI1	
TAF1	TCF21	BCL3	
TBL1XR1	RELA	RELA TNF	
TBP	MXI1	SREBF2	
WRNIP1	MEF2A	HMG3	
ZNF384	GATA1	GATA2	
	ATF2	EBF1	
	STAT3	FOS	
	SREBF1 22RHC; INS	CEBPB	
	FOXM1	CREB1	
	STAT5A	TAL1	

	HIF1A	IKZF1	
	YY1 ATRA	SPI1 ROSI	
	E2F4	SMAD1	
	MYC	ELF1	
	MAZ	SRF	
	BHLHE40	POU2F2	
	ZBTB17	TCF12	
	ZNF280D	JUN IFNG	
	E2F1 BICALU	LYL1	
	PAX5	MEF2A	
	FOSL1	PBX3	
	FOS	TCF3	
	ZNF83	NFKB1	
	ELF1	ATF3	
	YY1	E2F6	
	JUN	MYC	
	SRF	IRF1 IFNA1	
	NANOG	ERG	
	IRF1 IFNG	JUN	
	RELA BAY082	NFYA	
	KLF11	REST	
	ZBTB7A	ATF1	
	NFYA	ZNF143	
	REST	RELA	
	TFAP4	TBP	
	MYC IFNA1	IRF4	
	E2F1 HES6	ZBTB7A	
	FOXH1	MYC IFNG	
	TEAD4	ATF2	
	ATF3	JUND	
	BCL3	UBTF	

	RELA TNF	ZNF384	
	TCF7L2	JUN IFNA1	
	SOX2	IRF3	
	SREBF2	HEY1	
	EGR1	SP2	
	MAFK	MTA3	
	USF1 ATRA	EGR1	
	FOXA1 17BE2	TEAD4	
	HMG3	RUNX1T1	
	E2F1		
	GATA2		
	ARNT		
	EBF1		
	E2F6		
	GABPA R1881		
	TAL1		
	CREB1 FOXA1		
	KLF5		
	PBX3		
	SOX9		
	KLF11 ROSI		
	CREB1 DEX		
	FOXA2		
	IKZF1		
	TBP		
	SPI1 ROSI		
	FOXA1 DEX		
	SIX2		
	SMAD1		
	POU2F2		
	CTCF DEX		

	SP2		
	JUN IFNG		
	LYL1		
	FOXA1 R1881		
	E2F1 BICALU HES6		
	MYC DHT		
	TP53		
	ERG DHT		
	TCF3		
	JUNB		
	ZNF143		
	NFKB1		
	SMARCC1		
	FOXA1 DHT		
	GTF2B		
	PDX1		
	IRF1 IFNA1		
	ERG		
	OTX2		
	CDX2 125DVD3		
	GLI2		
	FOXP1 DHT		
	ZNF263		
	ATF1		
	ARID3A		
	IRF4		
	IRF3		
	STAT2		
	MYC 4HT		
	GTF2F1		
	FOXP1		

	HEY1		
	ZEB1		
	CEBPB FORSK		
	SIX5		
	MYC IFNG		
	ETV5		
	FOXP2		
	E2F3		
	UBTF		
	STAT3 4HT		
	ZNF384		
	BARX1		
	JUN IFNA1		
	MYBL2		
	MTA3		
	USF1 DEX		
	NFYC		
	CDX2		
	ZKSCAN1		
	HOXA6		
	MEIS1		
	RUNX1T1		
	HOXA4		

Supplementary table 2 List of all TFs identified in at least one analysis and columns indicating if a TF was found in this analysis or not.

Transcription factor	Chea3_all_hits	Chea3_GPR84_hits	Cistromics_GPR8_4hits	upregulated_TF_in_sepsis
SPI1	✓	✓	✓	✓
HLX	✓	✓		

MTF1	✓	✓		✓
NFE2	✓	✓		✓
CREB5	✓			
CEBPB	✓	✓	✓	✓
NFE4	✓			✓
ZNF467	✓	✓		
ZNF438	✓	✓		✓
PLSCR1	✓	✓		✓
CEBPE	✓	✓		
TFEC	✓	✓		
MXD1	✓			
ZNF746	✓			
NFIL3	✓			✓
ZNF267	✓	✓		
BCL6	✓			✓
JDP2	✓			
LYL1	✓		✓	
ELF4	✓			
BATF2	✓	✓		
TET2	✓			
CEBPA	✓		✓	✓
BATF	✓	✓		
STAT5A	✓		✓	
LTF	✓			✓
SP110	✓			
BACH1	✓			
FOXN2	✓			
BORCS8MEF2B	✓			
IRF7	✓			
IRF9	✓			
TRAFD1	✓			
STAT3	✓		✓	
ZNF641	✓			
TFE3	✓			
TFEB	✓			
IRF5	✓			

RELB	✓	✓		
IRF1	✓			✓
TAL1	✓			✓
ARID5A	✓			
IKZF1	✓	✓		✓
CEBPD	✓			✓
FOSL2	✓			✓
STAT5B	✓			
DNTTIP1	✓			
ETV6	✓			
RUNX2	✓	✓		
SNAI3	✓			
GTF2B	✓			✓
ATF3	✓	✓		✓
ATF6	✓			
RUNX1	✓	✓		✓
HIF1A	✓			✓
CSRNP1	✓	✓		
ZBTB34	✓			
JUNB	✓			✓
IRF2	✓	✓		
FLI1	✓	✓		
MAFG	✓			
NFE2L2	✓	✓		
GFI1B	✓	✓		
JAZF1	✓			
GLMP	✓			
GATA1	✓	✓		✓
PPARG	✓			
KLF2	✓			
NFKB1	✓	✓		✓
GFI1	✓			
TIGD3	✓			
PRDM1	✓			
HHEX	✓			
SP100	✓			

NFKB2	✓	✓		
RARA	✓			
ZNF319	✓			
USF1	✓			✓
BATF3	✓			
KLF1	✓			
RXRA	✓			
STAT4	✓			✓
AKNA	✓			
ZEB2	✓	✓		
IRF8	✓			
PHF21A	✓			
FOSL1	✓	✓		✓
MLX	✓			
ZNF697	✓	✓		
MAX	✓			✓
KLF6	✓			
RFX8	✓	✓		
VDR	✓	✓		
STAT1	✓	✓		✓
MNT	✓			
TBX21	✓			
AHR	✓	✓		
NR4A1	✓			
MSC	✓	✓		
MXI1	✓			✓
NR1H2	✓			
ELK3	✓	✓		
EGR1	✓			✓
JUN	✓			✓
POU2F2	✓			✓
SNAI1	✓	✓		
CREBL2	✓			
TCF7L2	✓			✓
ASCL2	✓			
TRERF1	✓			

ZNF394	✓			
MAFK	✓		✓	
PBX2	✓	✓		
FOSB	✓			
VENTX	✓			
FOXP3	✓			
ARNTL	✓			
MEF2A	✓		✓	
CREB3	✓			
ETS1	✓		✓	✓
REL	✓			
ETS2	✓	✓		✓
FOXO4	✓			
SMAD3	✓			
MAFF	✓			
ZNF217	✓			
MAFB	✓			
ARID3B	✓			
NR1H3	✓	✓		
ELF1	✓	✓	✓	
DDIT3	✓			
ARID3A	✓		✓	
BHLHE40	✓		✓	
PPARD	✓			
MBD2	✓			
ZNF341	✓			
ZBTB7B	✓			
ARNTL2	✓			
RELA	✓		✓	
ZBED1	✓			
MBNL2	✓			
RUNX3	✓			
TGIF1	✓			
ATF5	✓			
NAIF1	✓			
EPAS1	✓			

MITF	✓	✓		
L3MBTL3	✓			
ARID5B	✓			
STAT2	✓		✓	
ZNF710	✓			
NR3C1	✓			
NFATC1	✓			
ZBTB48	✓			
SP140	✓			
C11ORF95	✓			
NCOA1	✓	✓		
STAT6	✓			
ZNF346	✓			
FOXO3	✓			
FOS	✓		✓	
EHF	✓			
MYB	✓		✓	
ZNF792	✓			
TSHZ3	✓			
CREB3L2	✓			
TCF7	✓	✓		✓
TWIST2	✓			
SP140L	✓			
MEF2B	✓			
ZNF276	✓			
ZNF281	✓			
MBD4	✓			
SPIB	✓			
ERG	✓		✓	
SP1	✓	✓	✓	
JUND	✓		✓	
NKX23	✓			
ETV3L	✓	✓		
KLF9	✓	✓		
NRF1	✓			
IRF4	✓		✓	

RAG1	✓		
MTERF2	✓		
KLF10	✓		
CUX1	✓	✓	
LIN54	✓		
ZBTB10	✓		
PBX1	✓		
ZEB1	✓		✓
SPIC	✓	✓	
NR2F2	✓	✓	
KLF13	✓		
ZBED2	✓		
ZNF18	✓		
SP2	✓		✓
GATA2	✓		✓
KLF3	✓	✓	
ZBTB49	✓		
ZNF331	✓		
CREB1	✓	✓	✓
HBP1	✓		
SRF	✓		✓
ZNF586	✓		
RBPJ	✓		
ZNF75D	✓		
USF2	✓		
NFYC	✓		✓
ZNF117	✓		
ZNF469	✓		
ZNF672	✓		
SOX9	✓	✓	✓
CREM	✓	✓	
NR4A3	✓	✓	
SREBF1	✓		✓
ZHX1	✓		
KLF11	✓		✓
FOXJ2	✓		

ZNF274	✓			
MEIS1	✓	✓	✓	
ELF3	✓		✓	
LEF1	✓	✓		✓
ZNF516	✓			
GZF1	✓			
SATB1	✓			✓
SKIL	✓			
KLF4	✓	✓		
HOXB7	✓	✓		
ZBTB22	✓			
ZNF296	✓			
SNAI2	✓			
HMGN3	✓		✓	✓
TWIST1	✓	✓		
ZNF462	✓			
NPAS2	✓			
ZNF860	✓			
SNAPC2	✓			
ZNF524	✓			
RLF	✓			
ZNF410	✓			
FOXO1	✓			
TCF12	✓		✓	
MEF2C	✓			✓
ZNF608	✓			
AR	✓			
FOXP1	✓	✓	✓	
ZNF443	✓			
GMEB2	✓			
CREB3L1	✓			
GLIS3	✓			
CTCF			✓	
E2F4			✓	
GATA3			✓	✓
NFYB			✓	

GABPA	✓	
HEYL	✓	
GATA4	✓	
FOXA1	✓	
TCF21	✓	
ATF2	✓	
FOXM1	✓	
YY1	✓	
MYC	✓	
MAZ	✓	
ZBTB17	✓	
ZNF280D	✓	
E2F1	✓	
PAX5	✓	
ZNF83	✓	✓
NANOG	✓	
ZBTB7A	✓	
NFYA	✓	
REST	✓	
TFAP4	✓	
FOXH1	✓	
TEAD4	✓	
BCL3	✓	
SOX2	✓	
SREBF2	✓	
ARNT	✓	
EBF1	✓	
E2F6	✓	
KLF5	✓	
PBX3	✓	
FOXA2	✓	
TBP	✓	
SIX2	✓	
SMAD1	✓	
TP53	✓	
TCF3	✓	

ZNF143	✓	
SMARCC1	✓	
PDX1	✓	
OTX2	✓	
CDX2	✓	
GLI2	✓	
ZNF263	✓	
ATF1	✓	
IRF3	✓	
GTF2F1	✓	
HEY1	✓	
SIX5	✓	
ETV5	✓	
FOXP2	✓	
E2F3	✓	
UBTF	✓	
ZNF384	✓	
BARX1	✓	
MYBL2	✓	
MTA3	✓	
ZKSCAN1	✓	
HOXA6	✓	
RUNX1T1	✓	
HOXA4	✓	
IFNG	✓	
IFNA1	✓	
HES6	✓	
BACH2		✓
BCL11A		✓
BCL11B		✓
CXXC5		✓
DACH1		✓
DNMT1		✓
E2F5		✓
EOMES		✓
KDM2B		✓

MYBL1	✓
NR1D2	✓
PRDM5	✓
RORA	✓
TSHZ1	✓
ZBTB41	✓
ZFP3	✓
ZFP62	✓
ZNF121	✓
ZNF260	✓
ZNF266	✓
ZNF329	✓
ZNF420	✓
ZNF439	✓
ZNF573	✓
ZNF600	✓

Supplementary table 3 Knowledge" on GPR84 expression according to Enrichr

Transcription Factor	Source
NR1H3	ARCHS4 Co-expression
FOSL2	ARCHS4 Co-expression
NFKB2	ARCHS4 Co-expression
CREM	ARCHS4 Co-expression
RELB	ARCHS4 Co-expression
TFEC	ARCHS4 Co-expression

NFKB1	ARCHS4	Co-expression
VDR	ARCHS4	Co-expression
PPARD	ARCHS4	Co-expression
NFE2L2	ARCHS4	Co-expression
ZBTB17	ARCHS4	Co-expression
ETV3	ARCHS4	Co-expression
NR4A3	ARCHS4	Co-expression
EGR2	ARCHS4	Co-expression
SNAI1	ARCHS4	Co-expression
HIVEP3	ARCHS4	Co-expression
IRF5	ARCHS4	Co-expression
HLX	ARCHS4	Co-expression
BATF	ARCHS4	Co-expression
ETS2	ARCHS4	Co-expression
ZNF385A	ARCHS4	Co-expression

ATF3	ARCHS4	Co-expression
BATF2	ARCHS4	Co-expression
ATF5	ARCHS4	Co-expression
CEBPB	ARCHS4	Co-expression
MSC	ARCHS4	Co-expression
ZNF267	ARCHS4	Co-expression
MTF1	ARCHS4	Co-expression
MAFG	ARCHS4	Co-expression
MAFB	ARCHS4	Co-expression
JDP2	ARCHS4	Co-expression
ZNF697	ARCHS4	Co-expression
ETV3L	ARCHS4	Co-expression
ZNF438	ARCHS4	Co-expression
PLEK	ARCHS4	Co-expression
SMAD7	ARCHS4	Co-expression

STAT1	KO Mouse, GPR84 up
Myc	KD Human cell line, GPR84 up
Bach2	KO Mouse, GPR84 up
XBP1	KO Mouse, GPR84 up
IRF8	KO Mouse, GPR84 up
SATB2	Overexpression Mouse, GPR84 down
VAX2	KO Mouse, GPR84 down
ZFX	KO Mouse, GPR84 down
ZBTB7A	KO Mouse, GPR84 down
ESRRA	KO Mouse, GPR84 down
ARID3B	KO Mouse, GPR84 down

ZXDC	KD/ depletion Human, GPR84 down
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