

SARS-COV-2 (SC2) DEGS (when compared to uninfected)

	CD14+CD16+ monocytes		PPARG+CD5L Macrophages		GREEN GENES ARE IN IVERMECTIN - SC2 PPI
	UP	Down	UP	Down	Category
SC2 REPLICA.					Myeloid cells infected with SARS-CoV-2 show SC2 replication
EGFR					Core for ivermectin
EPO					Core for ivermectin
CXCL8					Core for ivermectin
IL6					Core for ivermectin: Severity
IL6R					
IL6ST					
CRP					Severity
TLR4					Severity (LPS receptor)
IDO1					Severity
S100A8					Severity
C1QA					Severity
FCGR2A					ADE: Entry of SC2 into monocytes and macrophages
FCGR3A					CD16 (severe ADE?)
EGFR					Core
BSG					drives foam cell with EGFR, SC2 coreceptor
AFP					virulence and malignancy conferring factor, mediator of immunosenescence, UPREG BY SC2
NFKB1					Induction of cytokines, induces HERV-K102
TGFB1					activator of AFP
CASP3					AFP binds and inactivates, prevents apoptosis
STAT1					
MAPK1					downregulates foam cell (HERV-K102 particle production?)
MAPK8					may convert M1 FM to M2 FM (promoted by Vit D deficiency) reversed by ivermectin
MAPK14					p38: increases IL-1 β , TNF- α , IL-6, COX-2, iNOS (NOS2); activates p53 and EGFR
MTOR					
APOE					
CAV1					
AKT1					
HMOX1					
RB1					
HLA-A					
B2M					very highly expressed in SC2 infected monocytes
IFITM3					
PML					
APP					
HMGB1					
IL18					
PARP1					
PPP1CA					
MB					
CDC42					
HSPA4					
PAK1					
ITCH					
ATG5					
CTSB					
KPNB1					
ITGB3					With HMGB1, markers of extracellular vesicles (EVs) which correlate with COVID-19 severity (Maugeri N et al, 2021).
LAMP1					Needed for HERV-K102 particle release by PCD, marker of EVs from macrophages found in sepsis (Wang G et al., 2021).
TF					marker of EVs from macrophages found in sepsis (Wang G et al., 2021).
IL1B					
TNF					
ACOD1					IRG-1 considered the most inflammatory, induced by IRF-1 & blocked by VDR
IRF1					Induces ACOD1, HERV-K102
IFNG					induces HERV-K102
IFNGR1					
IFNGR2					
DDX6					HERV-K102 nucleus to cytoplasm, loss associated with highest mortality, coagulopathic
ATM					Induces p53 to downregulate AFP
ERBB2					Drives EMT the malignant phenotype/signalling via PIC3/Akt/mTOR pathway
TP53					downregulates AFP, reverses malignancy, restores foam cell formation
SREBF1					initiates cholesterol pathway needed for foam cell formation
TFR					SC2 coreceptor
TARDBP					TDP43 inducer of HERV-K102 in CNS, ass. with neurodegeneration, AD, CJD, ALS
GRIP1					GC receptor cofactor for gene repression connects with VDR, HDAC1, PPARG
NR3C1					glucocorticoid receptor (upregulates AFP and HERV-K102 particle induction, downregulates IL6 and inflammation)
HSD11B1					cortisol to cortisone
HSD11B2					cortisone to cortisol
VDR					Low Vit D risk factor for cytokine storm
A2M					Interacts with SC2 S protein
HIF1A					Hypoxia induced factor 1A (triggers foam cell formation)
NOS2					iNOS converts arginine to NO and citrulline (normal human macrophages lack)
IGF1					insulin like growth factor 1 inhibits p53 promotes immunosenescence
IGF1R					receptor for IGF1
DNASE2					needed for HERV-K102 particle release by PCD

CCR5					Marker for most inflammatory monocyte in severe BALF (Ren X, 2021); also marks the monocyte (CD14+ CD16+) cell type initially infected by HIV-1 founder/transmitted R5 strains needed to establish HIV-1 acquisition (Weber J et al, AIDS Reviews, 2006). Infection of this cell type seems to be very important to RNA virus pandemics.
CCL5					
GSK3A					
GSK3B					
ARG1					HERV-K102 activity correlates with higher ornithine and Rb of 0.5 to 0.9 (M1-like has some properties of M2)
ARG2					
CD14					
PPARG					considered anti-inflammatory; differentiation of foam cells; attenuates effects of stress on aging
PPARA					
PPARD					
TLR2					
TLR4					Severity (LPS receptor)
TLR7					
TLR8					associates with HERV-K102 in neurodegeneration
TLR10					
TLR8-AS1					
IRF-2					
IRF-7					
MX1					UPREGULATES WITH apoptosis induction in foamy sebocytes and macrophages (see also CIDEA and CASP8)
AR					Androgen Receptor
TGFB111					Androgen Receptor co-factor
FGG					interacts with IL6 & AFP in GC pathway
EGR1					Mapk14>EGR1>IRF-1 in GC pathway
IGFBP3					in p53 pathway AFP>IGFBP3>EGFR
VCAN					in p53 pathway VCAN abrogates ? AFP>IGFBP3>EGFR
TGFB1					inactive when TGFB1 binds and activates AFP
TGFB2					inactive when TGFB1 binds and activates AFP
CIDEA					Ab to HERV-K102 Envelope induces apoptosis directly by activating CIDEA (Wang-Johanning F et al., JNCI, 2012).
CASP8					Ab to HERV-K102 Envelope induces apoptosis directly by activating CASP8>CASP3 (Wang-Johanning F et al, JNCI, 2012).
CD44					phagocytic receptor along with PS receptor to engulf apoptotic bodies and cells, may play a role in M1 foam cell formation, also a role in ERBB2/FOXO1 related death (Krolikoski M et al., Matrix Biol, 2019).
BIRC5					may interfere with CASP3 apoptosis

[illegible]