Macrophage:extracellular
IL4
IL2RG;IL4R
**PTMs(phosphorylation and acetylation) in TNF−alpha−induced NF−kB signaling
**Autophosphorylation
Macrophage:membrane
**PTMs in BAFF−induced non−canonical NF−kB signaling
Macrophage:cytosol
BAG4
**PTMs(ubiquitination and phosphorylation) in TNF−alpha−induced NF−kB signaling
**TNF−alpha−induced Caspase−8 signaling
ERAP1
BRE
ZFP91
SOCS5
*vCyclin (HHV8)
CSNK2A1
SRC
MAP3K14
PIN1
**PTMs(phosphorylation) in TNF−alpha−induced NF−kB signaling
CDK6
BTRC;CUL1; FBXW11;FBXW7; RBX1;SKP1;SKP2
**PTMs(phosphorylation and acetylation) in TNF−alpha−induced NF−kB signaling
CHUK;IKBKB
PIM1
Macrophage:nucleus
ELK1
JUN
CASP3
MAP3K14
**Caspase cascade
**Cell death
RPS6KA5
CHUK
PRKCD
NFKBIA;NFKBIB; NFKBIE
PRKCZ
STAT6
RELA;REL;NFKB1; RELB;NFKB2
NFKB2
GATA3
CREBBP
EP300
H3F3A;H3F3B; HIST3H3
**Gene expression
**Immune response
JAK3
SOCS1
IGHG4
CCL11
FCER2
IGHG1
IGHE
**Cell survival
**Cell growth
RELA;NFKB1
JAK1
SHC1
IRS2
IRS1
PLCG2
*PtdIns(4,5)P2
FES
BMX
GRB2
INPP5D
*IP3
PIK3R2;PIK3R1; PIK3R3
Macrophage:endoplasmic reticulum
ITPR1;ITPR2; ITPR3
*Ca(2+)
PIK3CA;PIK3CB; PIK3CD
SOS1;SOS2
HRAS
*Ca(2+)
*1,2−Diacylglycerol
*PtdIns(3,4,5)P3
UBE2V1
RAF1
TRADD
PRKCA
PRKCE
PRKCD
DAB2IP
DGKA
*Ceramides
UBE2N
PDPK1
MAP2K1
MAP2K2
AZI2
*Phosphatidic acid
TRAF2
AKT1;AKT2; AKT3
**Sphingolipid metabolism
RPS6KB1
ADAM17
MAPK1;MAPK3
TBK1
MAP3K5
MAP4K2
SPHK1
SMURF2
BAD
**Endothelial cell migration
GSK3B
*Sphingosine
TRAF1
MTOR
RPS6KA1
MAP3K1
*(2S,3R,4E)−Sphingosine 1−phosphate
**Angiogenesis
**AKT signaling
NFKBIB
MAP2K4
MAP2K7
MAPK14;MAPK11; MAPK13;MAPK12
MAPK10;MAPK8; MAPK9
Macrophage:mitochondria
BMF
BCL2L1
BCL2L11
BCL2
BAX
ATF2
**Inflammatory response
**Regulation of apoptosis
**Cell proliferation
**Apoptosis
**Regulation of Apoptosis by Mitochondrial Proteins
CYCS
HTRA2
DIABLO
ADCY1;ADCY2;ADCY3; ADCY4;ADCY5;ADCY6; ADCY7;ADCY8;ADCY9
XIAP
**Anti−Apoptosis
APAF1
BIRC3
UBE2D1
UBE2D3
*Cyclic AMP
*Pyrophosphate
UBB;UBC
CSNK1A1
NFKBIA
PRKAR1A;PRKAR1B; PRKAR2A;PRKAR2B
**PTMs(ubiquitination and phosphorilation) in TNF−alpha−induced NF−kB signaling
BIRC2
PRKACA
RIPK1
SHARPIN;RNF31; RBCK1
TRAF3
CRADD
TAB2
CFLAR
SQSTM1
IKBKG
CASP8AP2
MAP3K3
CASP2
TAB1
FADD
PRKCI
CASP9
CASP8
**Ceramides signaling pathway
MAP3K7
CASP7
CASP10
CASP6
BID
TNFRSF1A
IL2RG;IL4R
TNFRSF1B
KDR
TNF