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Supplementary Fig. 1 Generation of MCPIP3-deficient mice

- a eQTL analysis of SNP (rs4561177) using GTEx at www.gtexportal.org.
- b Amino acid sequence comparison of MCPIP3 Exon 3-5 between humans and mice.
- **c** Expression of *Zc3h12c* mRNA (in arbitrary units) in the indicated populations reanalyzed from the IMMGEN gene microarray.
- **d** Schematics for the generation of $Zc3h12c^{-/-}$ mice.
- e Zc3h12c mRNA expression from sorted bone marrow pDCs from Zc3h12c^{+/+}/Zc3h12c^{-/-} mice, measured by qPCR (n=3 mice per group).
- f MCPIP3 protein expression from bone marrow pDCs from Zc3h12c^{+/+}/Zc3h12c^{-/-} mice,

measured by anti-MCPIP3 polyclonal antibodies (n=3 pooled mice per group).

- **g** Schematics for the generation of $Zc3h12c^{fl/fl}$ mice.
- **h** Verification of $Zc3h12c^{M\Phi\Delta}$ mice. Splenic CD11b⁺ F4/80⁺ macrophages from $Zc3h12c^{fl/fl}/Zc3h12c^{M\Phi\Delta}$ were FACS-sorted, and checked for deletion with PCR (left) and qPCR(right) (n=3 mice per group).
- Verification of *Zc3h12c*^{DC∆} mice. Splenic CD11c⁺ cells from *Zc3h12c*^{fl/fl}/ *Zc3h12c*^{DC∆} were FACS-sorted, and checked for deletion with PCR (left) and qPCR(right) (n=3 mice per group).
- **j** Skin-draining (popliteal, axillary, and brachial) lymph node cell numbers of *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-}, *Zc3h12c*^{fl/fl}/*Zc3h12c*^{DCΔ}, *Zc3h12c*^{fl/fl}/*Zc3h12c*^{MΦΔ} mice (~12 weeks) (n=18 mice for *Zc3h12c*^{+/+}; n=23 mice for *Zc3h12c*^{-/-}; n=3 for *Zc3h12c*^{fl/fl}/*Zc3h12c*^{DCΔ}; n=5 for *Zc3h12c*^{fl/fl}/*Zc3h12c*^{MΦΔ}).

Source data are provided as a Source Data file (two-tailed Student's t-test). ns= not significant. Data are representative of at least two independent experiments (mean±S.D.).



Supplementary Fig. 2 MCPIP3 is dispensable for immune cell development

- **a** Distribution of T and B cell subsets in *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} mice (n=4 mice per group).
- **b** Distribution of splenic macrophages in $Zc3h12c^{+/+}/Zc3h12c^{-/-}$ mice (n=3 mice per group).

- **c** Distribution of splenic macrophages in $Zc3h12c^{fl/fl}/Zc3h12c^{M\Phi\Delta}$ mice (n=4 mice per group).
- **d** Percentages of macrophages from BMDMs in $Zc3h12c^{+/+}/Zc3h12c^{-/-}$ and $Zc3h12c^{fl/fl}/Zc3h12c^{M\Phi\Delta}$ mice (n=3 mice per group).
- **e** Distribution of bone marrow pDCs in *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} and *Zc3h12c*^{fl/fl}/ *Zc3h12c*^{DCA} mice (n=5 mice per group).
- **f** Percentages of *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} BMDC and subsets (n=3 mice per group).
- **g** Distribution of pDCs in different immune organs of *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} mice (n=5 mice per group).
- **h** Distribution of splenic cDCs in $Zc3h12c^{+/+}/Zc3h12c^{-/-}$ mice (n=4 mice per group).
- i Percentages of FL3TL-pDCs in *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} and *Zc3h12c*^{fl/fl}/*Zc3h12c*^{DCΔ} mice (n=3 mice per group).

Source data are provided as a Source Data file (two-tailed Student's t-test). Data are representative of at least two independent experiments (mean±S.D.).



Supplementary Fig. 3 MCPIP3 does not regulate classic M1/M2 functions

- **a** TNF production by activated *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} BMDMs was measured by intracellular staining after 16 hours (n=4 mice per group).
- **b** TNF production by activated *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} Per.MΦ was measured by intracellular staining after 16 hours (n=4 mice per group).
- **c** IL-6 production (intracellular staining) by *Zc3h12c^{+/+}/Zc3h12c^{-/-}* BMDMs stimulated in vitro with indicated ligands (n=5 mice per group).

- **d** IFN-γ production (intracellular staining) by *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} BMDMs stimulated in vitro with indicated ligands (n=5 mice per group).
- *Nos2* and *Arg1* expression in M1/M2/R848 conditioned *Zc3h12c*^{+/+} BMDMs (n=4 mice per group).
- f Zc3h12c expression in M1/M2 conditioned WT BMDMs (n=4 mice per group).
- **g** *ZC3H12C* expression in M1/M2 conditioned healthy human PMBC monocyte-derived macrophages (n=7 individuals per group).
- **h** Signature M1/M2 genes expression in R848-conditioned *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} BMDMs (n=4 mice per group).
- i Survival curve of LPS-induced sepsis in $Zc3h12c^{+/+}/Zc3h12c^{-/-}$ and $Zc3h12c^{fl/fl}/Zc3h12c^{-/-}$ ^{MΦΔ} mice (n=10 mice per group).
- **j** Bacterial load (CFU) of liver and spleen from *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} mice infected with *Listeria monocytogenes* (n=3 mice per group).
- **k** Wound closure rate of $Zc3h12c^{+/+}/Zc3h12c^{-/-}$ mice (n=5 mice per group).
- I Distribution of myeloid cells from IMQ-treated back-skin of WT mice at day 3. Monocytes (CD11b⁺ CD24^{low}, Ly6c^{low to hi} CD64^{low to hi}, F4/80⁻ CCR2⁻, Ly6C⁺ MHCII⁻), MoDC (CD11b⁺ CD24^{low}, Ly6c^{low to hi} CD64^{low to hi}, F4/80⁻ CCR2⁻, Ly6c⁺ MHCII⁺), MoMΦ (CD11b⁺ CD24^{low}, Ly6c^{low to hi} CD64^{low to hi}, F4/80⁺ CCR2⁺, Ly6c^{hi} MHCII⁺), resident MΦ (CD11b⁺ CD24^{low}, Ly6c^{low to hi} CD64^{low to hi}, F4/80⁺ CCR2⁺, Ly6c^{low} MHCII⁺) were calculated as percentages of live CD45⁺ CD11b⁺ cells (n=4 mice per group).

Data are representative of at least two independent experiments (mean±S.D.) Source data are provided as a Source Data file (two-tailed Student's t-test for murine samples; two-tailed Mann Whitney test for human samples; Log-rank (Mantel-Cox) test for survival curves).



Supplementary Fig. 4 MCPIP3 is dispensable for IFN- α and TNF production by DCs

- **a** FACS gating strategy to identify pDCs in IMQ-treated skin on day 1.
- b pDC percentages from IMQ-treated back-skin of Zc3h12c^{+/+}/Zc3h12c^{-/-} mice on day 1 (n=5 mice per group).
- c pDC percentages from WT IMQ-treated back-skin on indicated days (n= 1 mice per group)
- **d** CX3CR1 expression of pDCs in IMQ-treated skin of *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} mice at day 1 (n=3 mice per group).
- e IFN-α and TNF production (measured by intracellular staining) by BM $Zc3h12c^{+/+}/Zc3h12c^{-}$ ^{/-} pDCs stimulated in vitro with CpG A and R848 (n=5 mice per group).

- **f** IFN-α and TNF production (measured by intracellular staining) by BM $Zc3h12c^{fl/fl}/Zc3h12c^{DC\Delta}$ pDCs stimulated in vitro with CpG A (n=5 mice per group).
- **g** Viral titer of *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} mice infected with LCMV-Armstrong or clone 13 was measured by qPCR (n=3 mice per group).
- **h** *Zc3h12c* expression in R848-activated sorted splenic *Zc3h12c*^{fl/fl}/*Zc3h12c*^{DCΔ} cDC2s was measured by qPCR (n=4 mice per group)
- i *Tnf* expression in sorted splenic *Zc3h12c*^{fl/fl}/ *Zc3h12c*^{DCΔ} cDC2s was measured by qPCR after 24 hours of activation with R848 (n=4 mice per group)
- **j** IL-6 secretion by *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} BMDC (moDC) were measured by ELISA (n=4 mice per group).
- **k** TNF secretion by *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} BMDC (moDC) were measured by ELISA (n=4 mice per group).
- I Sorted WT FL3TL-pDCs were treated with CpG A for 24 hours, and their supernatants (pDC^{sup}) were added to Zc3h12c^{+/+}/Zc3h12c^{-/-} BMDMs along with R848. TNF production in macrophages was measured by intracellular staining. Percentage changes was normalized against Zc3h12c^{+/+} samples without pDC^{sup} (n=4 mice per group).
- m Zc3h12c^{+/+}/Zc3h12c^{-/-} BMDMs were cultured with recombinant (1mg/ml) IFN-α for 48 hours, then treated with R848. TNF production is measured by intracellular staining after 4 hours (n=3 mice per group).
- **n** *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-}BMDMs were cultured with recombinant (1mg/ml) IFN-α for 48 hours, then treated with R848. TNF production is measured by ELISA after 4 hours (n=4 mice per group).
- Ear skin thickness of the IMQ-treated *lfnar1-¹⁻: Zc3h12c^{+/+}* or *lfnar1-¹⁻: Zc3h12c^{-/-}* mice were measured daily (n=4 mice for *Zc3h12c^{+/+}*; n=3 mice for *Zc3h12c^{-/-}*).
- p Infiltrated CD45⁺ or Ly6G⁺ immune cell percentages, IL-17A production by CD45⁺ or γδ T cells at the IMQ-treated *Ifnar1^{-/-}: Zc3h12c^{+/+}* or *Ifnar1^{-/-}: Zc3h12c^{-/-}* mice were measured by FACS (n=4 mice for *Zc3h12c^{+/+}*; n=3 mice for *Zc3h12c^{-/-}*).

Source data are provided as a Source Data file (two-tailed Student's t-test). Data are representative of at least two independent experiments (mean±S.D.)



Supplementary Fig. 5 The role of MCPIP3 in various immune subsets involved in psoriasis

- **a** Infiltrated T cell percentages at IMQ-treated skin of $Zc3h12c^{fl/fl}/Zc3h12c^{M\Phi\Delta}$ mice at D4 (n=5 mice per group).
- **b** Infiltrated immune cell percentages at IMQ-treated skin of $Zc3h12c^{fl/fl}/Zc3h12c^{M\Phi\Delta}$ mice at

D4 (n=5 mice per group).

- **c** Infiltrated T cell percentages and their IL-17A production at IMQ-treated skin of *Zc3h12c*^{fl/fl}/*Zc3h12c*^{DC∆} mice at D4 (n=5 mice per group).
- **d** Infiltrated leukocyte percentages at IMQ-treated skin of $Zc3h12c^{fl/fl}/Zc3h12c^{DC\Delta}$ mice at D4 (n=5 mice per group).
- Infiltrated myeloid cell percentages at IMQ-treated skin of *Zc3h12c*^{fl/fl}/*Zc3h12c*^{DC∆} mice at D4 (n=5 mice per group).
- f Infiltrated immune cell percentages at rIL-23-treated skin. Immune cells from IMQ-treated Zc3h12c^{+/+}/Zc3h12c^{-/-} ear-skin were isolated at day 9, and analyzed by flow cytometry (n=5 mice for Zc3h12c^{+/+}; n=4 mice for Zc3h12c^{-/-}).
- **g** Infiltrated myeloid cell percentages at rIL-23-treated skin (n=5 mice for *Zc3h12c*^{+/+}; n=4 mice for *Zc3h12c*^{-/-}).
- **h** Infiltrated T cell percentages at rIL-23-treated skin (n=5 mice for *Zc3h12c*^{+/+}; n=4 mice for *Zc3h12c*^{-/-}).
- i IL-17A production by T cells at rIL-23-treated skin (n=5 mice for *Zc3h12c*^{+/+}; n=4 mice for *Zc3h12c*^{-/-}).
- **j** TNF production by leukocytes (CD45⁺) at rIL-23-treated skin (n=5 mice for *Zc3h12c*^{+/+}; n=4 mice for *Zc3h12c*^{-/-}).
- **k** Expression of *Zc3h12c* mRNA (in arbitrary units) in the indicated T cell populations reanalyzed from the IMMGEN gene microarray.
- I IFN γ and IL-17A production by CD4⁺ T cells from spinal cord fluids of EAE-induced $Zc3h12c^{+/+}/Zc3h12c^{-/-}$ mice (n=5 mice for $Zc3h12c^{+/+}$; n=4 mice for $Zc3h12c^{-/-}$).
- **m** Schematics for the generation of the straight (Zc3h12c^{-/-} BM to CD45.1 host) and reverse (CD45.1 BM to Zc3h12c^{-/-} host) chimeras.
- **n** Verification of the straight/reverse chimeras. FACS plots of host and recipient CD45⁺ cells from spleen ~2 months after irradiation were shown.
- Infiltrated myeloid cell percentages at IMQ-treated skin of chimeras at D4 (n=5 mice per group).

Source data are provided as a Source Data file (two-tailed Student's t-test). Data are representative of at least two independent experiments (mean±S.D.)



Supplementary Fig. 6 Screening of transcriptional regulators in MCPIP3-deficient macrophages

a mRNA expressions of the indicated genes were measured by qPCR in sorted $Zc3h12c^{+/+}/Zc3h12c^{-/-}$ BMDMs at indicated timepoints after R848 activation (n=3 mice for $Zc3h12c^{+/+}$; n=4 mice for $Zc3h12c^{-/-}$).

b-c Zc3h12b (**b**) or Zc3h12d (**c**) expression in sorted $Zc3h12c^{+/+}/Zc3h12c^{-/-}$ BMDMs and FL3TLpDCs was measured by qPCR (n=3 mice for $Zc3h12c^{+/+}$; n=4 mice for $Zc3h12c^{-/-}$).

Source data are provided as a Source Data file (two-tailed Student's t-test). ND= not detected. Data are representative of at least two independent experiments (mean±S.D.)



Supplementary Fig. 7 Screening of transcriptional regulators in MCPIP3-deficient pDCs a-c mRNA expressions of the indicated genes were measured by qPCR in sorted *Zc3h12c*^{+/+}/*Zc3h12c*^{-/-} Flt3-pDCs at indicated timepoints after R848 or CpG activation (n=4 mice). Source data are provided as a Source Data file (two-tailed Student's t-test). Data are representative of at least two independent experiments (mean±S.D.)



Supplementary Fig. 8 Flow cytometry gating strategies

All immune cells are gated with FSC-A/SSC-A for a live gate. Then a viability dye (FVD506) is used to exclude dead cells. Next, FSC-A/FSC-H is used to exclude doublets. After these gating, cells are specifically gated accordingly below:

Gating strategy (B220⁺ Bst2⁺) to identify pDC presented on Fig. 3g and Supplementary Fig. 1e; Fig. 2e; Fig. 2g; Fig. 4e-f. Gating strategies (B220⁺ Bst2⁺ SiglecH⁺) to identify pDCs presented on Fig 1f-g, Fig. 3c, e, h; Fig. 6e; Fig. 8e; Supplementary Fig. 1e, h, i.

- b. Gating strategies (B220⁺ Bst2⁺ SiglecH⁺) to Flt3l-pDCs presented on Fig. 1f; Fig. 3b, d, l;
 Fig. 4i; Fig. 6a-d, f, h; Fig. 8f, h-j; Fig. 7.a-c; Supplementary Fig. 2i.
- c. Gating strategies (CD11b⁺ F4/80⁺) to identify or sort peritoneal cavity macrophages presented on Fig. 1f; Fig. 2f; Fig. 3b; Fig. 7h; Supplementary Fig. 1h; Supplementary Fig. 3b.
- **d.** Gating strategies (CD11b⁺ F4/80⁺) to identify splenic macrophages presented on Supplementary Fig. 2c.
- e. Gating strategies (CD11b⁺ F4/80⁺) to identify or sort bone marrow-derived macrophages (BMDMs) presented on Fig. 1h; Fig. 2a-i; Fig. 3.a, c-f, h; Fig.4a-c, I-n; Fig. 6a-h; Fig. 7g-i; Fig. 8a, e; Supplementary Fig. 2d.

Supplementary Table 1:

Species	Gene/name	Sequence (5' to 3')	
Murine	mq <i>Zc3h12a</i> -Fwd	CAGATATTACCGTGTTTGTGCC	
Murine	mq <i>Zc3h12a</i> -Rvs	CTCTAGTTCCCGAAGGATGTG	
Murine	mq <i>Zc3h12b</i> -Fwd	GATCATGGAGAATGCAACGTG	
Murine	mq <i>Zc3h12b</i> -Rev	GGTTCCCTTGAGCCTTGG	
Murine	mq <i>Zc3h12c</i> -Fwd	CGTGCCGAGGAATAAAATTGG	
Murine	mq <i>Zc3h12c</i> -Rvs	AGGGCGGGACTGTTCTTTC	
Murine	mq <i>Zc3h12d</i> -Fwd	TGGCAGCAATGTGGCTAT	
Murine	mq <i>Zc3h12d</i> -Rvs	GTAGGTGTGTCCTCTGTCTCTA	
Murine	mq <i>ll12p40</i> -Fwd	TGGTTTGCCATCGTTTTGCTG	
Murine	mq <i>ll12p40</i> -Rvs	ACAGGTGAGGTTCACTGTTTCT	
Murine	mq <i>A20</i> -Fwd	ACAGGACTTTGCTACGACAC	

Murine	mq <i>A20</i> -Rvs	CTGAGGATGTTGCTGAGGAC
Murine	mq <i>Zfp36</i> -Fwd	CCGAATCCCTCGGAGGACTT
Murine	mq <i>Zfp</i> 36-Rvs	GAGCCAAAGGTGCAAAACCA
Murine	mq <i>Tia1</i> -Fwd	CACACAGCGTTCACAAGATCA
Murine	mq <i>Tia1</i> -Rvs	GGTAGCCATGTCTTTTACCACA
Murine	mq <i>HuR</i> -Fwd	GGATGACATTGGGAGAACGAAT
Murine	mq <i>HuR</i> -Rvs	TGTCCTGCTACTTTATCCCGAA
Murine	mq <i>lĸBα</i> -Fwd	CGAGACTTTCGAGGAAATACCC
Murine	mq <i>lκBα</i> -Rvs	GTCTGCGTCAAGACTGCTACA
Murine	mq <i>lκBβ</i> -Fwd	GCGGATGCCGATGAATGGT
Murine	mq <i>lκBβ</i> -Rvs	TGACGTAGCCAAAGACTAAGGG
Murine	mq <i>lĸBɛ</i> -Fwd	GCGGAGGCTGAATCACCAG

Murine	mq <i>lκBε</i> -R∨s	GAAAGCCCGAACGTGTTCTCA	
Murine	mq <i>Bcl3</i> -Fwd	CCGGAGGCCCTTTACTACCA	
Murine	mq <i>Bcl3</i> -Rvs	GGAGTAGGGGTGAGTAGGCAG	
Murine	mq <i>Map3k3(Mekk3)-</i> Fwd	ATAAGGACACAGGTCACCCAA	
Murine	mq <i>Map3k3(Mekk3)</i> -Rvs	TGCTCCACATCTTCGTATCTCA	
Murine	mq <i>Prkcz(Pkcζ)</i> -Fwd	TTACGCCATGAAGGTGGTAAAG	
Murine	mq <i>Prkcz(Pkcζ)</i> -Rvs	CGCCATTGACATACTCGATGA	
Murine	mq <i>Tnfrsf1a(Tnfr1)</i> -Fwd	ACAATCCCCTGTAAGGAGACTC	
Murine	mq <i>Tnfrsf1a(Tnfr1)</i> -Rvs	GCAAGGGACGCACTCACTT	
Murine	mq <i>Nfkbiz</i> -Fwd	GCTCCGACTCCTCCGATTTC	
Murine	mq <i>Nfkbiz</i> -Rvs	GAGTTCTTCACGCGAACACC	
Murine	mq <i>Malt1</i> -Fwd	GGACAAAGTCGCCCTTTTGAT	

Murine	mq <i>Malt1-</i> Rvs	TCCACAGCGTTACACATCTCA
Murine	mq <i>Rc3h1(Roquin-1)-</i> Fwd	AGTGTTCTGAGTCGCCCAATG
Murine	mq <i>Rc3h1(Roquin-1)-</i> Rvs	GCGTTCACCTAAAGATCGAGC
Murine	mq <i>Ltβ</i> -Fwd	GATGACAGCAAACCGTCGTG
Murine	mq <i>Ltβ</i> -Rvs	CCTGGAAGCATTGGATCTCTG
Murine	mq <i>ll6</i> -Fwd	CTGCAAGAGACTTCCATCCAG
Murine	mq <i>ll6</i> -Rvs	AGTGGTATAGACAGGTCTGTTGG
Murine	mq <i>Tnf-</i> Fwd	TAGCCCACGTCGTAGCAAA
Murine	mq <i>Tnf</i> -Rvs	GATAGCAAATCGGCTGACG
Murine	mq <i>lrf</i> 7-Fwd	TCCAGTTGATCCGCATAAGGT
Murine	Murine mq <i>lrf</i> 7-Rvs	CTTCCCTATTTTCCGTGGCTG
Murine	Murine mq <i>lrf</i> 3-Fwd	GCGGGACTTCGTACATCTGG
Murine	Murine mq <i>lrf</i> 3-Rvs	TTCGGTAGGTTTTCCTGGGAG

Murine	Murine mq <i>Rela</i> (p65)- Fwd	AGGCTTCTGGGCCTTATGTG
Murine	Murine mq <i>Rela</i> (p65)- Rvs	TGCTTCTCTCGCCAGGAATAC
Murine	Murine mq <i>Relb</i> -Fwd	CACCGGGTACACCCACATAG
Murine	Murine mq <i>Relb</i> -Rvs	ATGCCCAGGTTGTTAAAGCTG
Murine	Murine mq <i>Rel(C-rel)-</i> Fwd	TGTCAGCGACTTGAGTGCAT
Murine	Murine mq <i>Rel(C-rel)-</i> Rvs	TGACATGGATGGCGTTTCCA
Murine	Murine mq <i>Nfkb1(p105/p50)-</i> Fwd	AGAGGGGATTTCGATTCCGC
Murine	Murine mq <i>Nfkb1(p105/p50)-</i> Rvs	CCTGTGGGTAGGATTTCTTGTTC
Murine	Murine mq <i>Nfkb2</i> <i>(p100/p52)</i> -Fwd	GGCCGGAAGACCTATCCTACT
Murine	Murine mq <i>Nfkb2</i> <i>(p102/p52)</i> -Rvs	CTACAGACACAGCGCACACT
Murine	Murine mq <i>Chuk(IKKa)</i> -Fwd	GTCAGGACCGTGTTCTCAAGG
Murine	Murine mq <i>Chuk(IKKa)</i> -Rvs	GCTTCTTTGATGTTACTGAGGGC

Murine	Murine mq <i>lkbkb(lKKβ)</i> -Fwd	AAGTACACCGTGACCGTTGAC
Murine	Murine mq <i>lkbkb(lKKβ)</i> -Rvs	GCTGCCAGTTAGGGAGGAA
Murine	Murine mq <i>NEMO(IKKγ)</i> -Fwd	AAGCACCCCTGGAAGAACC
Murine	Murine mq <i>NEMO(IKKγ)</i> -Rvs	TCTCAGGAGTACCCTGCTCTG
Murine	Murine mq <i>lkbke(IKKi)</i> -Fwd	CACGTTCGGGCTTTCTGAAGA
Murine	Murine mq <i>lkbke(IKKi)</i> -Rvs	GACAGCTTATAGATGCTCTGCC
Murine	mq <i>ActB</i> -Fwd	GTGACGTTGACATCCGTAAAGA
Murine	mq <i>ActB</i> -Rvs	GCCGGACTCATCGTACTCC
Human	<i>ZC3H12C</i> Forward Primer	GGT GGC GGC TCC CAG GAA TA
Human	<i>ZC3H12C</i> Reverse Primer	ACG CCT CTT TTT CAT CCT TCC CCA
Human	18S Forward Primer	GTA ACC CGT TGA ACC CCA TT
Human	18S Reverse Primer	CCA TCC AAT CGG TAG TAG CG

Virus	LCMV	NP1-Fwd	GAGGCTTTCCATCCCAACTAT
Virus	LCMV	NP1-Rvs	AAGCTGAAGGCCAAGATCAT
Virus	LCMV	NP2-Fwd	CAGAAATGTTGATGCTGGACTGC
Virus	LCMV	NP2-Rvs	CAGACCTTGGCTTGCTTTACACAG
Virus	LCMV	GP-Fwd	CATTCACCTGGACTTTGTCAGACT C
Virus	LCMV	GP-Rvs	GCAACTGCTGTGTTCCCGAAAC