

1 **Supplementary Figure Legends**

2 **Supplementary Figure 1**

3 ZFP91 up-regulates the production and activation of pro-IL-1 β in THP-1 cells. (A)
4 PMA-differentiated THP-1 cells were transduced with lentiviruses containing ZFP91
5 gene using multiplicities of infection (MOI) of 10, 50, and 100 for 24 h and then
6 stimulated with 1 μ g/ml LPS for 6 h. The protein levels of IL-1 β were measured by
7 western blot analysis. (B) PMA-differentiated THP-1 cells were transduced with
8 lentiviruses containing ZFP91 gene for 24 h and then un-stimulated or stimulated with
9 1 μ g/ml LPS for 6 h. The protein levels of IL-1 β and pro-IL-1 β were measured by
10 western blot analysis.

11

12 **Supplementary Figure 2**

13 ZFP91 enhances the expression of non-canonical caspase-8 inflammasome
14 components in THP-1 cells. (A) PMA-differentiated THP-1 cells were transduced
15 with lentiviruses containing ZFP91 gene using MOI of 10, 50, and 100 for 24 h and
16 then stimulated with 1 μ g/ml LPS for 6 h. The protein levels of caspase-8 and cleaved
17 caspase-8 were measured by western blot analysis. (B) PMA-differentiated THP-1
18 cells were transduced with lentiviruses containing ZFP91 gene (MOI = 100) for 24 h
19 and then un-stimulated or stimulated with 1 μ g/ml LPS for 6 h. The protein levels of
20 NLRP3, ASC, and cleaved caspase-8 were measured by western blot analysis.

21

22 **Supplementary Figure 3**

23 Silencing of NLRP3, ASC or caspase-8 reduced the production of IL-1 β in
24 LPS-stimulated THP-1 cells. PMA-differentiated THP-1 cells were transduced with
25 lentiviruses carrying NLRP3, ASC or caspase-8 siRNA (MOI = 100) for 24 h and then

1 stimulated with 1 $\mu\text{g/ml}$ LPS for 6 h. IL-1 β was detected by ELISA. Data are the
2 mean \pm SD of five independent experiments. ^{###} $P < 0.001$ vs. control group (cultured
3 in medium alone); * $P < 0.05$ vs. LPS-induced group. The protein levels of pro-IL-1 β ,
4 NLRP3, ASC and cleaved caspase-8 were measured by western blot analysis.

5

6 **Supplementary Figure 4**

7 ZFP91 enhances the activation of MAPKs in THP-1 cells. (A) PMA-differentiated
8 THP-1 cells were transduced with lentiviruses containing ZFP91 gene (MOI = 100)
9 for 24 h and then un-stimulated or stimulated with 1 $\mu\text{g/ml}$ LPS for 6 h. The protein
10 levels of p-ERK, p-p38, p-JNK, ERK, p38 and JNK were measured by western blot
11 analysis. (B) PMA-differentiated THP-1 cells were transduced with lentiviruses
12 containing ZFP91 gene (MOI = 100) for 24 h and then un-stimulated or stimulated
13 with 1 $\mu\text{g/ml}$ LPS for 6 h. Nuclear extracts were analyzed by western blot using
14 indicated antibodies for p65 and Topo-I. Cytoplasmic extracts were analyzed by
15 western blot using indicated antibodies for p65 and tubulin.

16

17 **Supplementary Figure 5**

18 The inhibitor of ERK, p38, or JNK reduced the production of pro-IL-1 β in
19 LPS-stimulated THP-1 cells. PMA-differentiated THP-1 cells were stimulated with 1
20 $\mu\text{g/ml}$ LPS alone or with ERK inhibitor (50 μM), p38 inhibitor (25 μM), JNK
21 inhibitor (50 μM) for 6 h. The protein levels of pro-IL-1 β , p-ERK, ERK, p-p38, p38,
22 p-JNK and JNK were measured by western blot analysis.