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Dual role of CD38 in microglial activation and activation-induced cell death.

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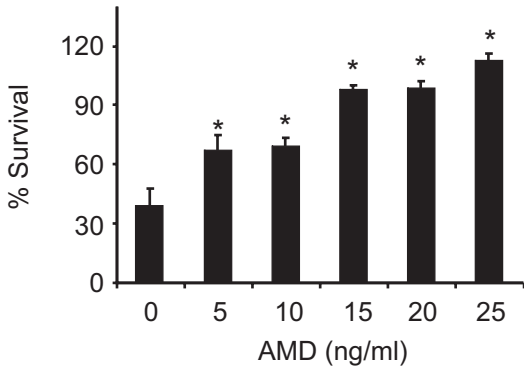
Fig 1.

A


% Survival
120
90
60
30
0
*
*
*
*
*
0
5
10
15
20
25
AMD (ng/ml)

B

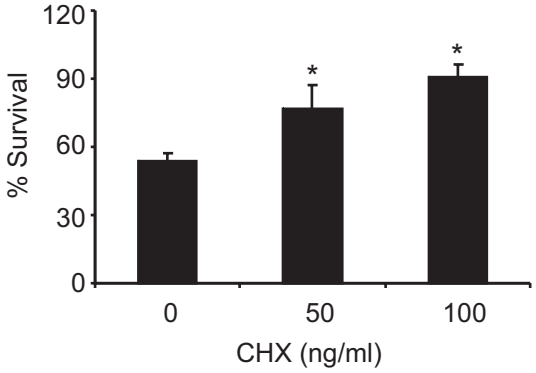

% Survival
120
90
60
30
0
*
*
0
50
100
CHX (ng/ml)

Fig 2

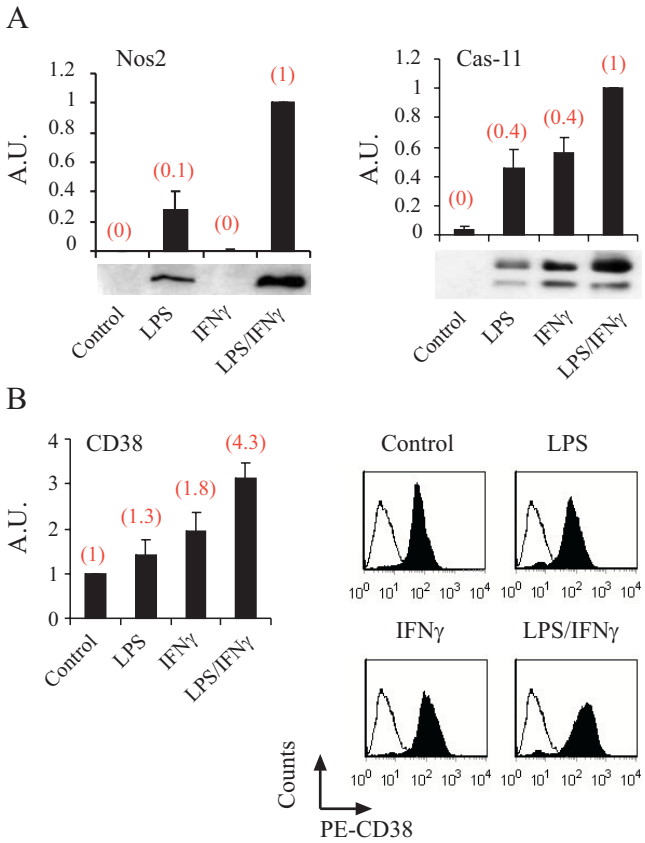

A
Nos2
A.U.
1.2
1
0.8
0.6
0.4
0.2
0
(0)
(0.1)
(0)
(1)
Control
LPS
IFNγ
LPS/IFNγ
Cas-11
(0)
(0.4)
(0.4)
(1)
B
CD38
(1)
(1.3)
(1.8)
(4.3)
Control
LPS
IFNγ
LPS/IFNγ
Counts
PE-CD38

Fig 3

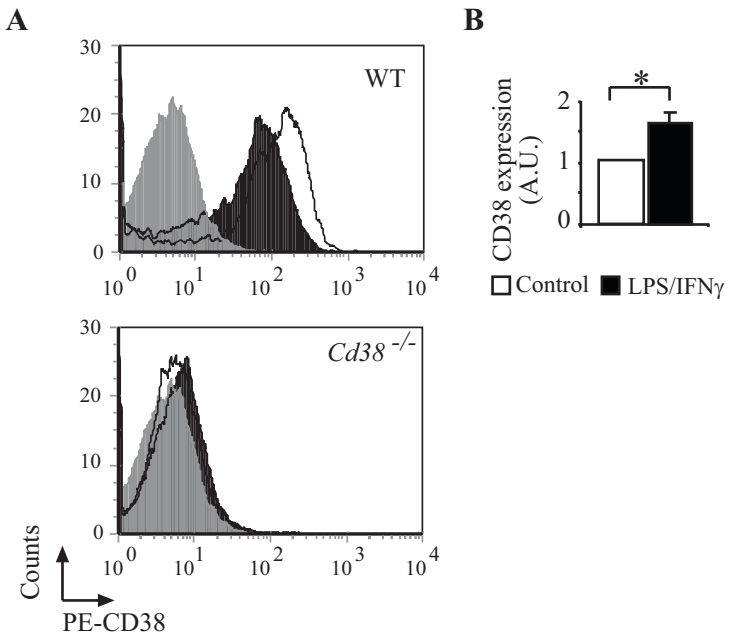
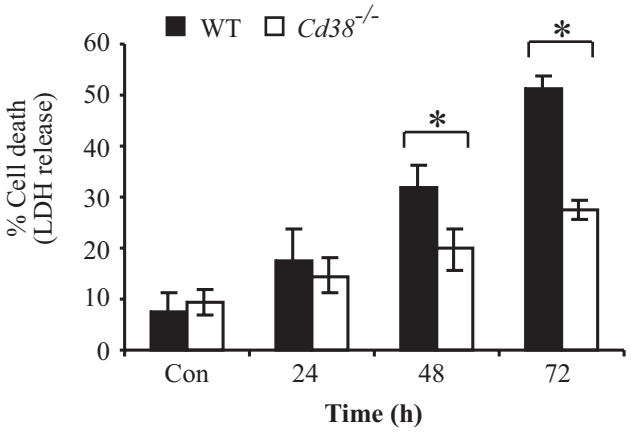

A
B
WT
Cd38 -/-
Counts
PE-CD38
CD38 expression (A.U.)
*
Control
LPS/IFNγ

Fig. 4

A


WT
Cd38-/-
% Cell death
(LDH release)
60
50
40
30
20
10
0
*
*
Con
24
48
72
Time (h)

B

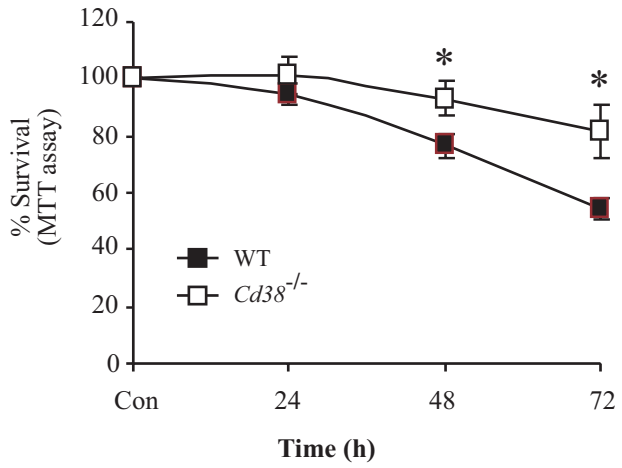
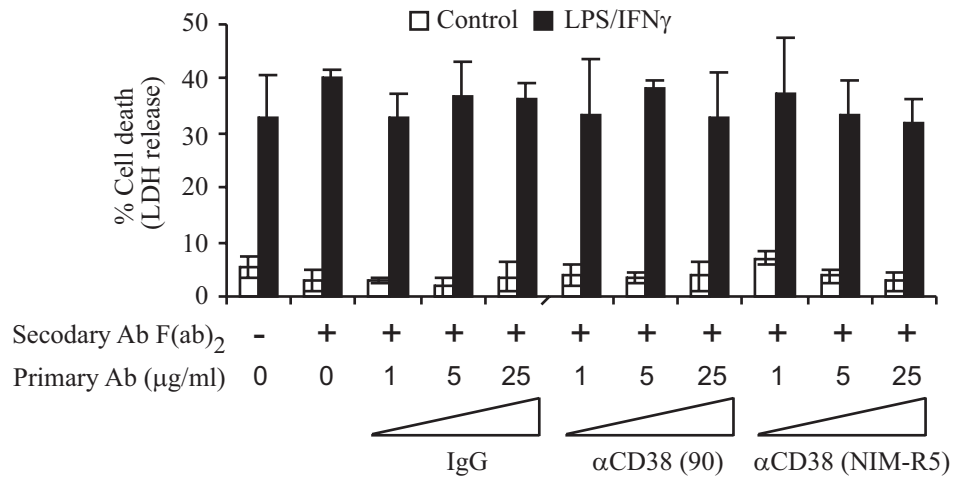
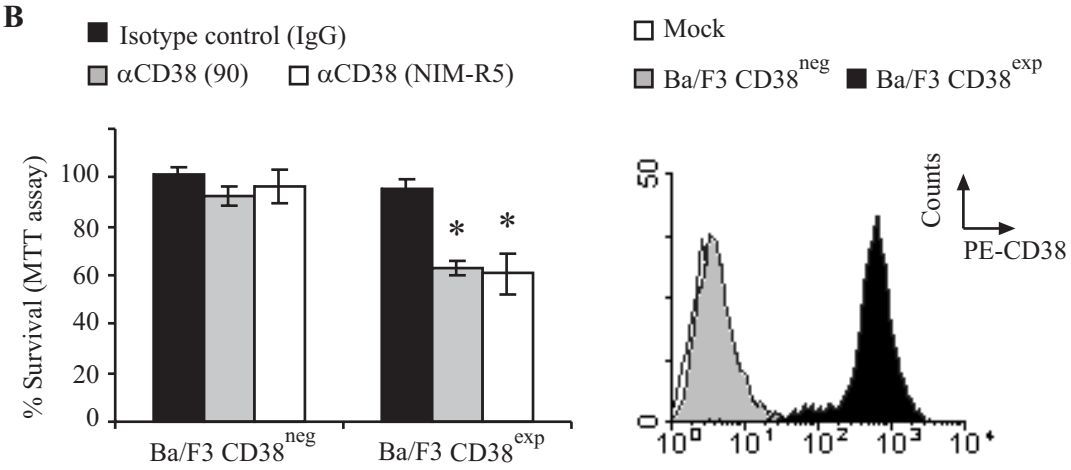

% Survival
(MTT assay)
120
100
80
60
40
20
0
*
*
WT
Cd38-/-
Con
24
48
72
Time (h)

Fig. 5

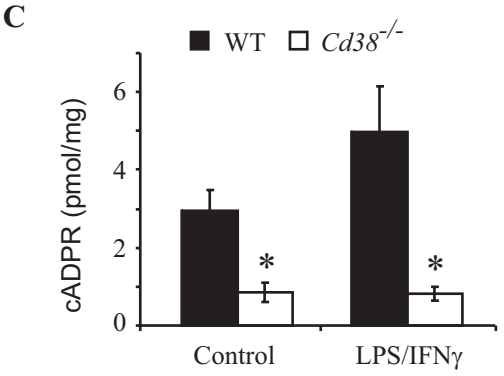
A


Control
LPS/IFNγ
% Cell death (LDH release)
50
40
30
20
10
0
Secodary Ab F(ab)2 - + + + + + + + + + +
Primary Ab (μg/ml) 0 0 1 5 25 1 5 25 1 5 25
IgG
αCD38 (90)
αCD38 (NIM-R5)

B


Isotype control (IgG)
αCD38 (90)
αCD38 (NIM-R5)
% Survival (MTT assay)
100
80
60
40
20
0
*
*
Ba/F3 CD38neg
Ba/F3 CD38exp
Mock
Ba/F3 CD38neg
Ba/F3 CD38exp
50
0
Counts
PE-CD38
10⁰
10¹
10²
10³
10⁴

C


WT
Cd38-/-
cADPR (pmol/mg)
6
4
2
0
*
*
Control
LPS/IFNγ

D

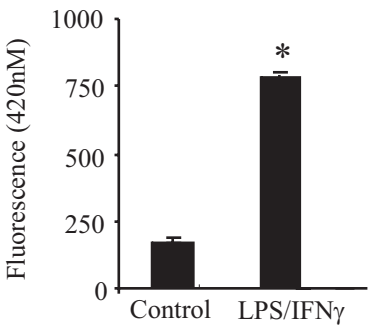

Fluorescence (420nM)
1000
750
500
250
0
*
Control
LPS/IFNγ

Fig. 6

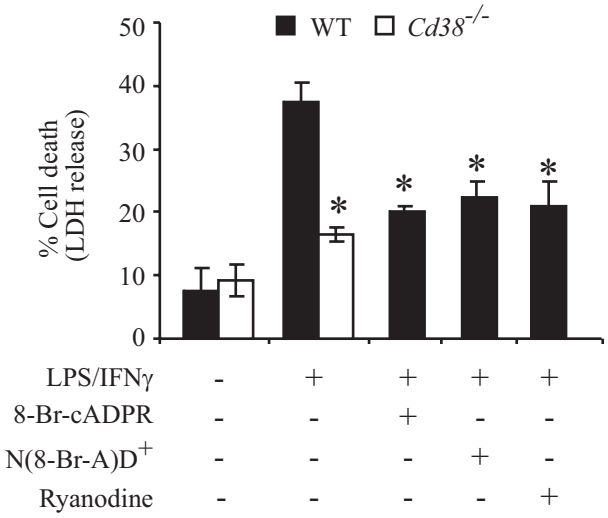

WT
Cd38-/-
% Cell death (LDH release)
50
40
30
20
10
0
*
*
*
*
LPS/IFNγ - + + + +
8-Br-cADPR - - + - -
N(8-Br-A)D+ - - - + -
Ryanodine - - - - +

Fig 7

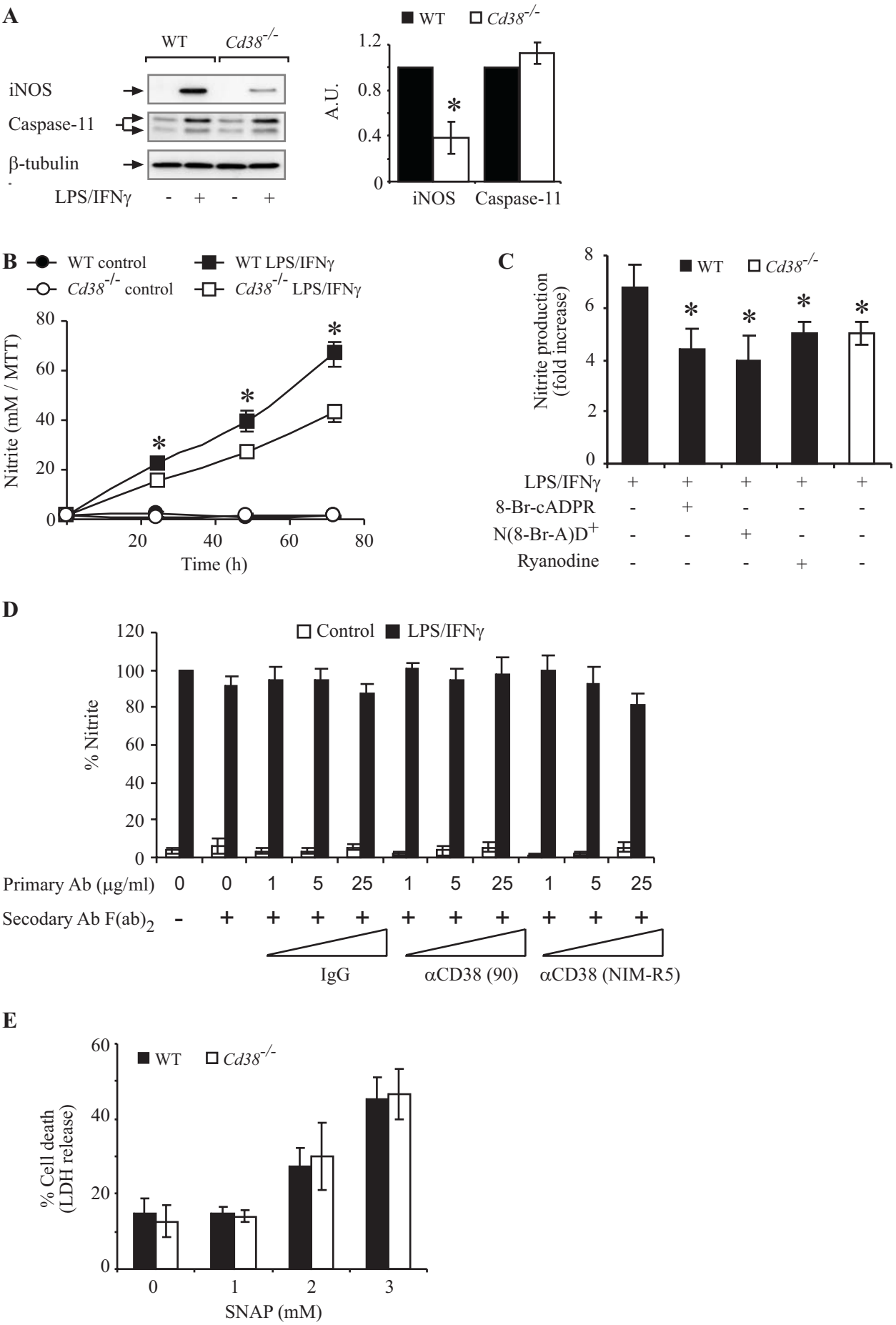

A
WT
Cd38-/-
iNOS
Caspase-11
β-tubulin
LPS/IFNγ - + - +
A.U.
iNOS
Caspase-11
B
WT control
WT LPS/IFNγ
Cd38-/- control
Cd38-/- LPS/IFNγ
Nitrite (mM / MTT)
Time (h)
C
Nitrite production (fold increase)
LPS/IFNγ
8-Br-cADPR
N(8-Br-A)D+
Ryanodine
D
Control
LPS/IFNγ
% Nitrite
Primary Ab (μg/ml)
Secodary Ab F(ab)2
IgG
αCD38 (90)
αCD38 (NIM-R5)
E
% Cell death (LDH release)
SNAP (mM)

Fig 8

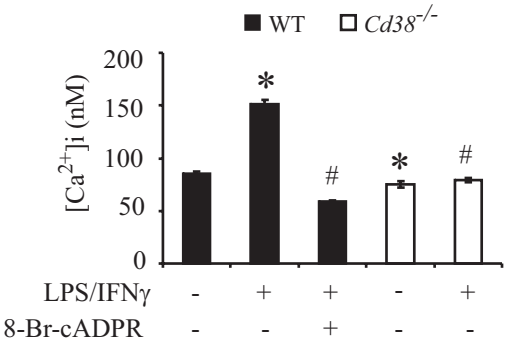
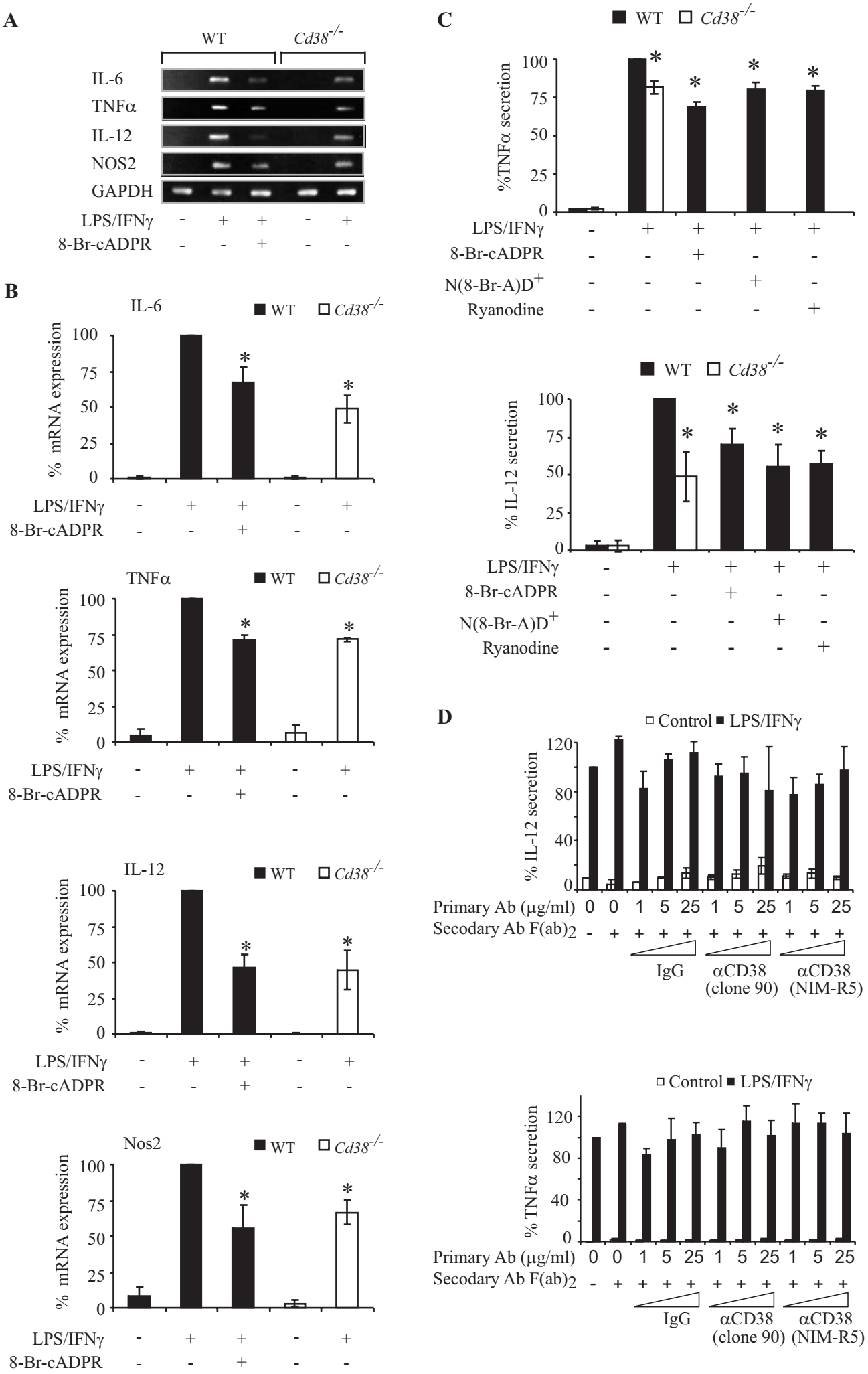


Fig 9


A
WT
Cd38-/-
IL-6
TNFα
IL-12
NOS2
GAPDH
LPS/IFNγ - + + - +
8-Br-cADPR - - + - -
B
IL-6
WT
Cd38-/-
% mRNA expression
100
75
50
25
0
LPS/IFNγ - + + - +
8-Br-cADPR - - + - -
TNFα
IL-12
Nos2
C
%TNFα secretion
LPS/IFNγ - + + + +
8-Br-cADPR - - + - -
N(8-Br-A)D+ - - - + -
Ryanodine - - - - +
% IL-12 secretion
D
Control
LPS/IFNγ
% IL-12 secretion
120
80
40
0
Primary Ab (μg/ml) 0 0 1 5 25 1 5 25 1 5 25
Secodary Ab F(ab)2 - + + + + + + + + + +
IgG
αCD38 (clone 90)
αCD38 (NIM-R5)
% TNFα secretion