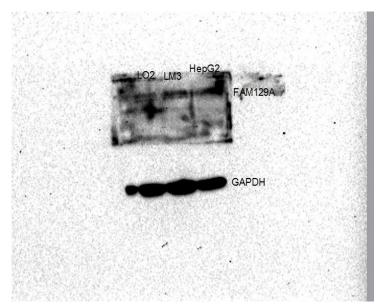
Supplementary material

S1. Replicates of western blots

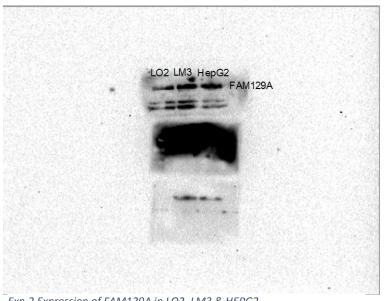
1.1 Figure 1(F), original blots

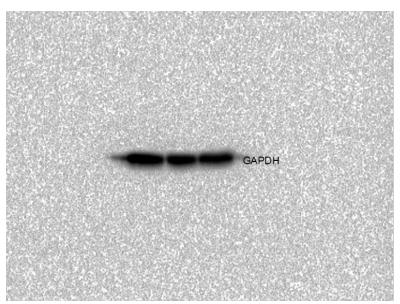
Expression of FAM129A in non-transfected cells (HepG2, HCCLM3) compared with normal LO2.

Experiment no.1



Exp.1 Expression of FAM129A in LO2, LM3 & HEPG2 with GAPDH

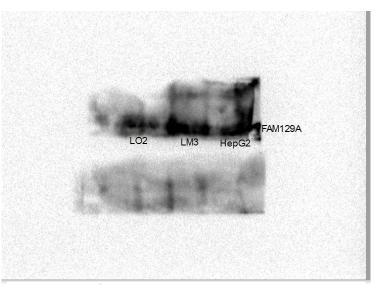


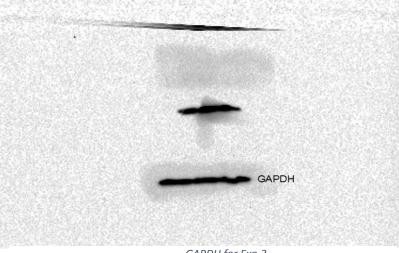


Exp.2 Expression of FAM129A in LO2, LM3 & HEPG2

GAPDH for Exp.2

Experiment no.3





Exp.3 Expression of FAM129A in LO2, LM3 & HEPG2

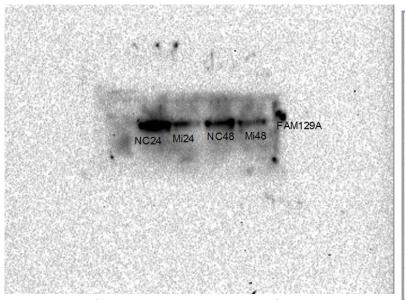
GAPDH for Exp.3

1.2 Figure 2 (C), original blots

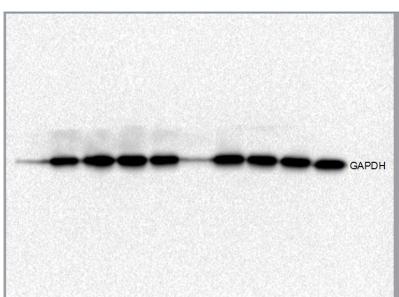
Expression of FAM129A at 24 and 48h in HCCLM3 and HepG2 cells transfected with mimic-4521

HCCLM3 transfected by miR-4521 mimic

Experiment no.1

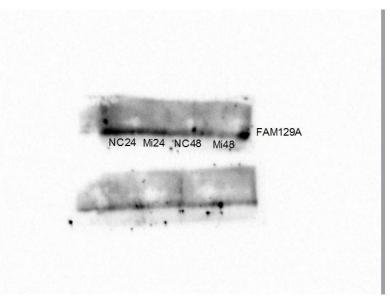


Exp.1 Expression of FAM129A in miR-4521 mimics transfected LM3 at 24,48h

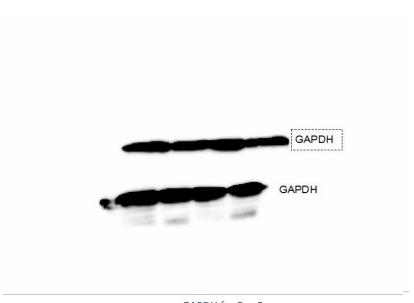


GAPDH for Exp.1

Experiment no.2



Exp.2 Expression of FAM129A in miR-4521 mimics transfected LM3 at 24,48h



GAPDH for Exp.2

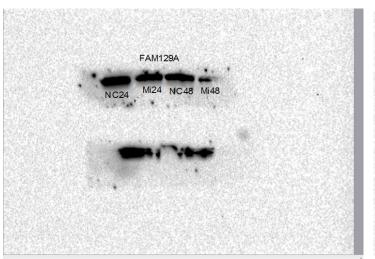


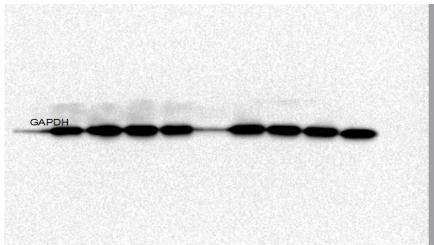


Exp.3 Expression of FAM129A in miR-4521 mimics transfected LM3 at 24,48h

GAPDH for Exp.3

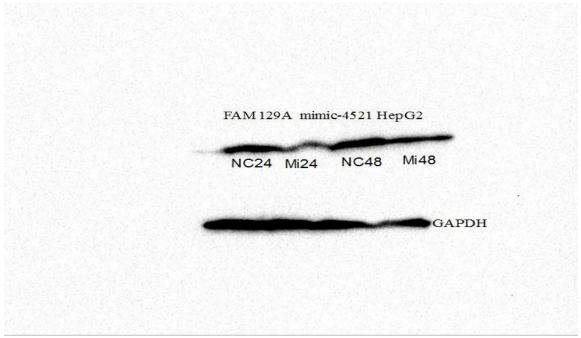
HepG2 transfected by miR-4521 mimic Experiment no.1





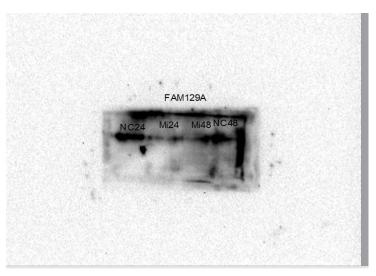
Exp.1 Expression of FAM129A in miR-4521 mimics transfected HEPG2 at 24,48h

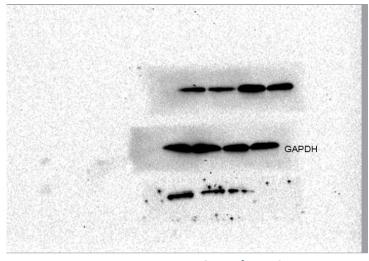
GAPDH for Exp.1



Exp.2 Expression of FAM129A in miR-4521 mimics transfected HEPG2 at 24,48h with GAPDH

Experiment no.3





Exp.3 Expression of FAM129A in miR-4521 mimics transfected HEPG2 at 24,48h

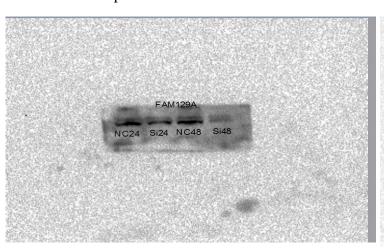
GAPDH for Exp.3

1.3 Figure 4 (A, B), original blots

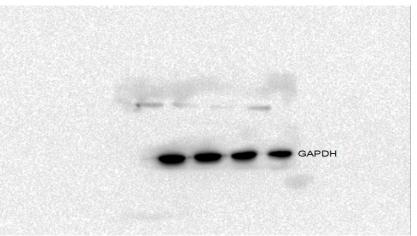
Expression of FAM129A at 24h and 48h in HCCLM3 andHepG2 cells transfected with si-FAM129A

HCCLM3 transfected by si-FAM129A

Experiment no.1

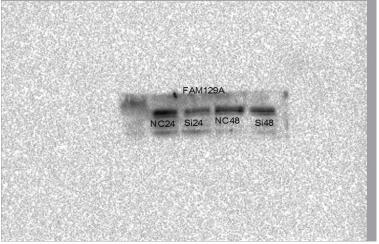


Exp.1 Expression of FAM129A in si-FAM129A transfected LM3 at 24,48h

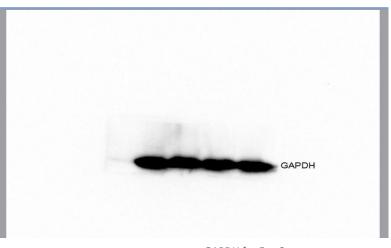


GAPDH for Exp.1

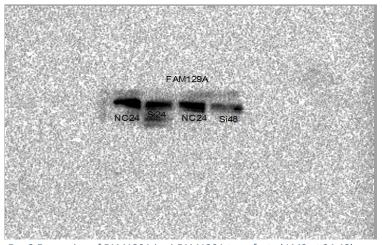
Experiment no.2



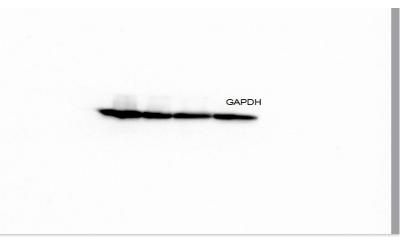
Exp.2 Expression of FAM129A in si-FAM129A transfected LM3 at 24,48h



GAPDH for Exp.2

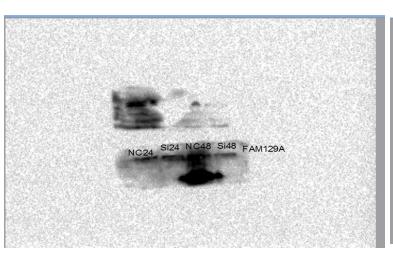


Exp.3 Expression of FAM129A in si-FAM129A transfected LM3 at 24,48h

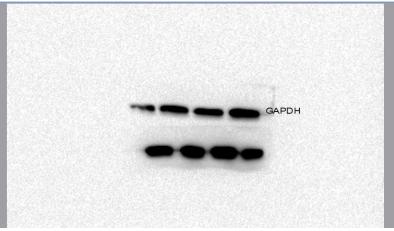


GAPDH for Exp.3

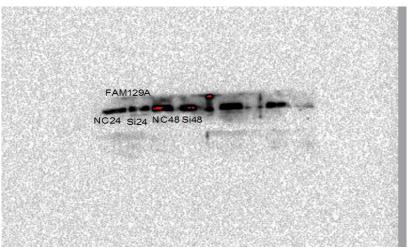
HepG2 transfected by si-FAM129A Experiment no.1



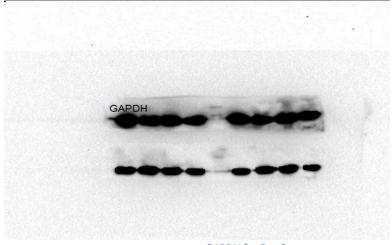
Exp.1 Expression of FAM129A in si-FAM129A transfected HEPG2 at 24,48h



GAPDH for Exp.1



Exp.2 Expression of FAM129A in si-FAM129A transfected HEPG2 at 24,48h

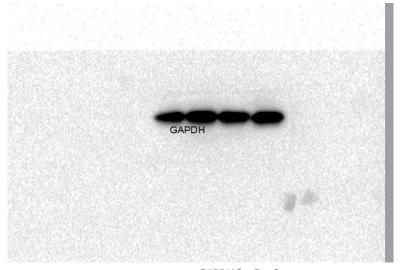


GAPDH for Exp.2

Experiment no.3



Exp.3 Expression of FAM129A in si-FAM129A transfected HEPG2 at 24,48h



GAPDH for Exp.3

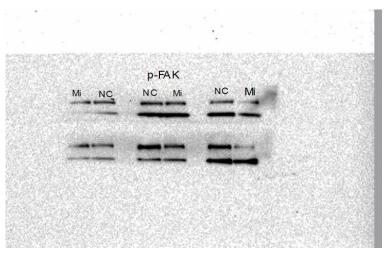
1.4 Figure 5 (A, B, C, D and E), original blots

Expression of signaling protein transfected with miR-4521 mimics in HCCLM3 and HepG2 cells.

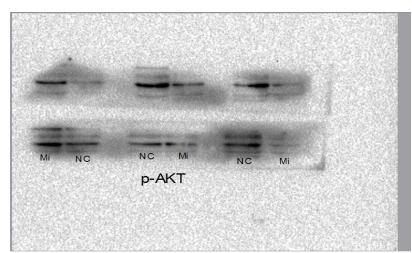
A.

HCCLM3

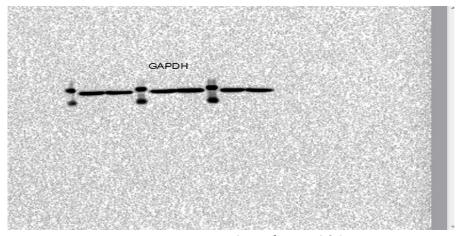
Experiment no.1, 2 & 3



Exp.1,2&3 Expression of p-FAK in miR-4521 mimics transfected LM3

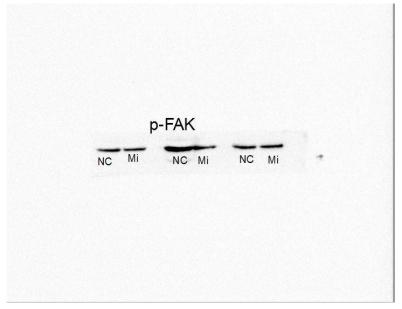


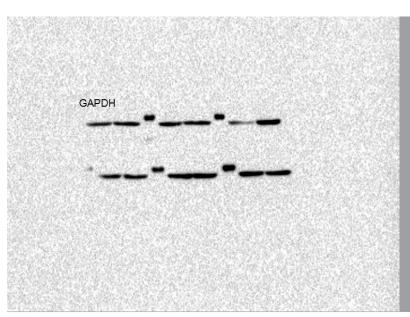
Exp.1,2&3 Expression of p-AKT in miR-4521 mimics transfected LM3



GAPDH for Exp.1,2 & 3

HepG2 Experiment no.1, 2 & 3

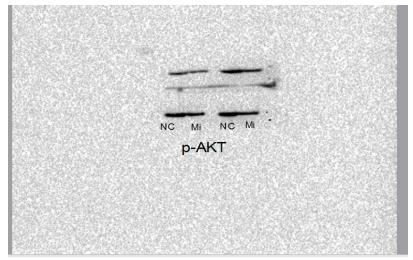




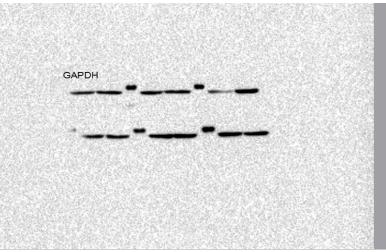
Exp.1,2&3 Expression of p-FAK in miR-4521 mimics transfected HEPG2

GAPDH for Exp.1, 2 & 3

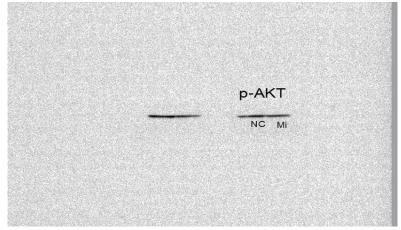
Experiment no.1, 2

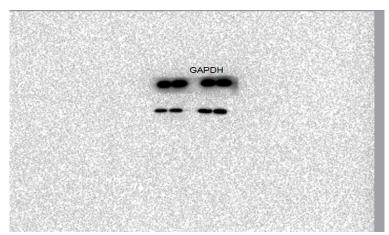






GAPDH for Exp.1, 2





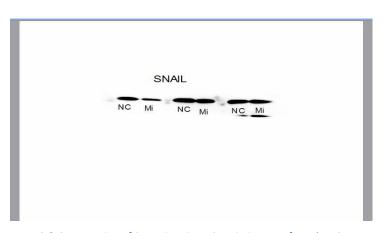
Exp.3 Expression of p-AKT in miR-4521 mimics transfected HEPG2

GAPDH for Exp.3

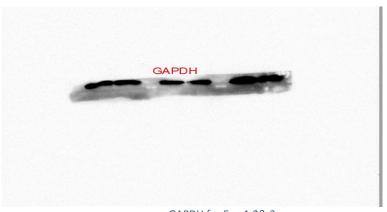
B.

HCCLM3

Experiment no.1, 2 & 3

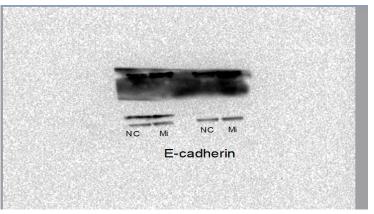


Exp.1,2 & 3 Expression of SNAIL in miR-4521 mimics transfected LM3



GAPDH for Exp.1,2& 3

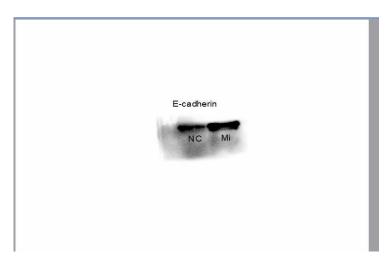
Experiment no.1, 2



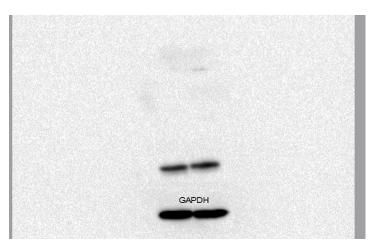
Exp.1,2 Expression of E-cadherin in miR-4521 mimics transfected LM3



GAPDH for Exp.1, 2

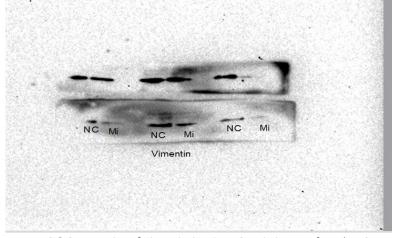


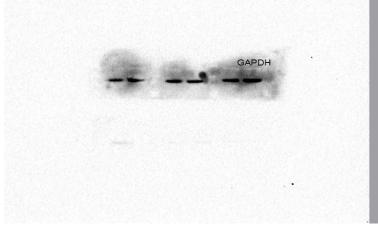
Exp.3 Expression of E-cadherin in miR-4521 mimics transfected LM3



GAPDH for Exp.3

Experiment no.1, 2 & 3

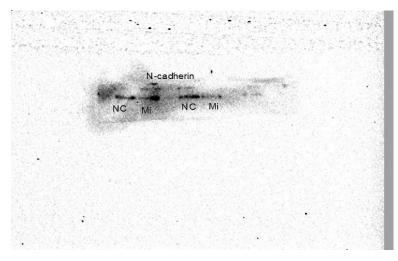




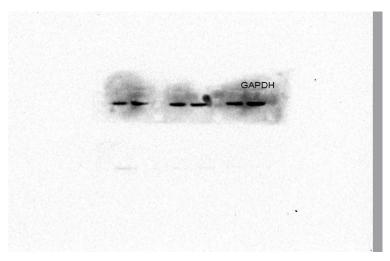
Exp.1,2 & 3 Expression of Vimentin in miR-4521 mimics transfected LM3

GAPDH for Exp.1,2& 3

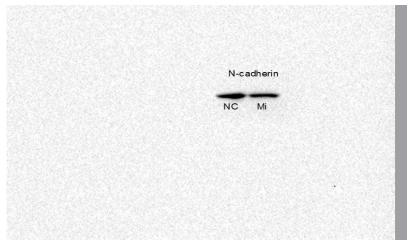
Experiment no.1, 2







GAPDH for Exp.1, 2



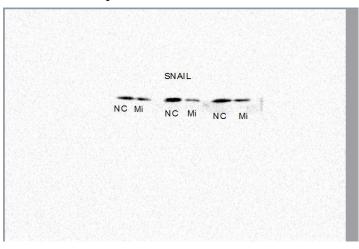


Exp.3 Expression of N-cadherin in miR-4521 mimics transfected LM3

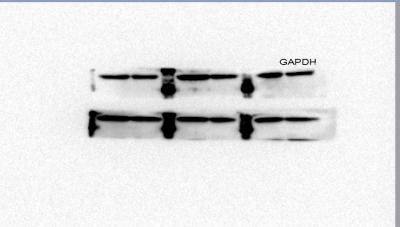
GAPDH for Exp.3

HepG2

Experiment N0.1,2 &3



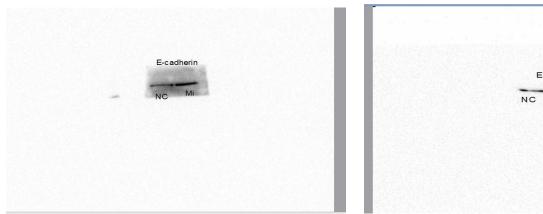


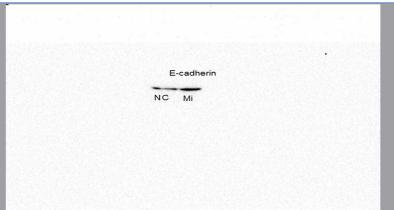


Exp.1,2 & 3 Expression of SNAIL in miR-4521 mimics transfected HEPG2

GAPDH for Exp.1,2& 3

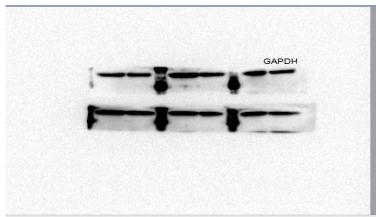
Experiment N0.1,2 &3





Exp.1,2 Expression of E-cadherin in miR-4521 mimics transfected HEPG2

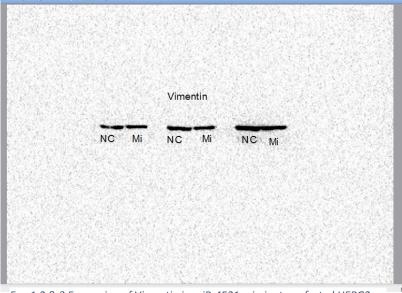


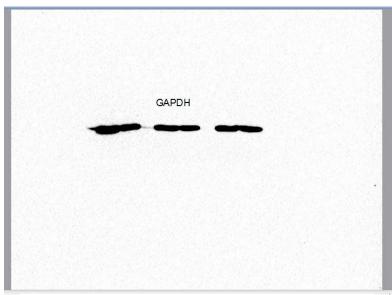


GAPDH for Exp.1,2& 3

Exp.3 Expression of E-cadherin in miR-4521 mimics transfected HEPG2

Experiment N0.1,2 &3

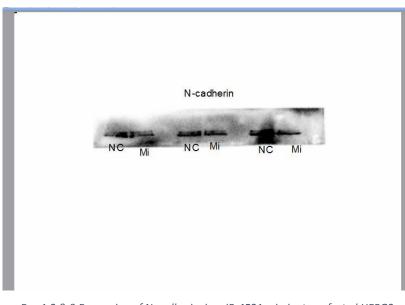




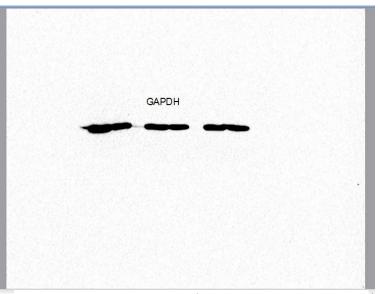
Exp.1,2 & 3 Expression of Vimentin in miR-4521 mimics transfected HEPG2

GAPDH for Exp.1,2& 3

Experiment N0.1, 2 &3





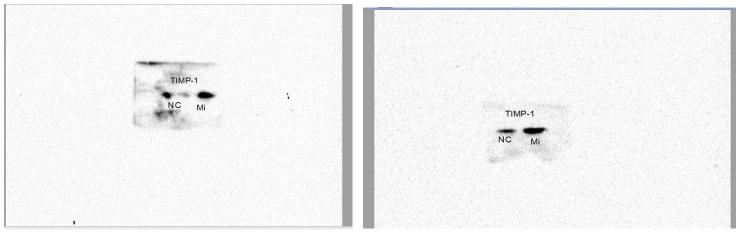


GAPDH for Exp.1,2& 3

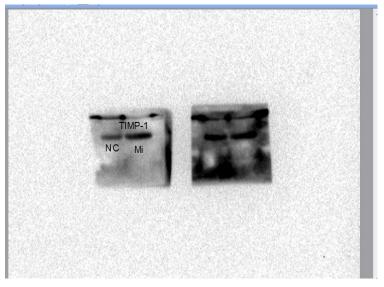
C.

HCCLM3

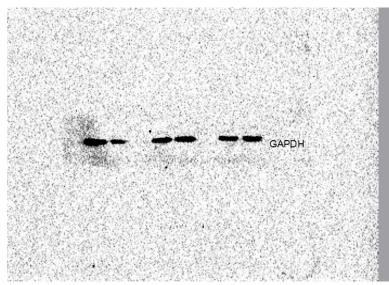
Experiment N0.1,2 &3



Exp.1,2 Expression of TIMP-1 in miR-4521 mimics transfected LM3

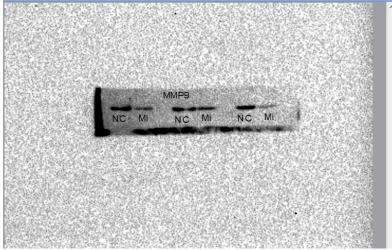


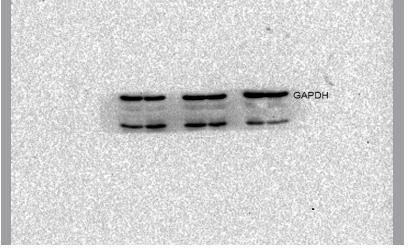
Exp.3 Expression of TIMP-1 in miR-4521 mimics transfected LM3



GAPDH for Exp.1,2& 3

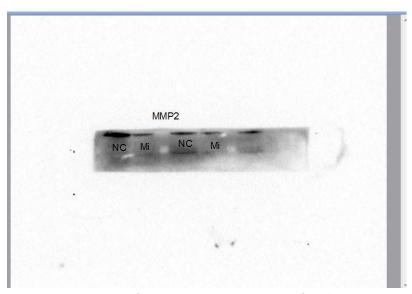
Experiment N0.1,2 &3



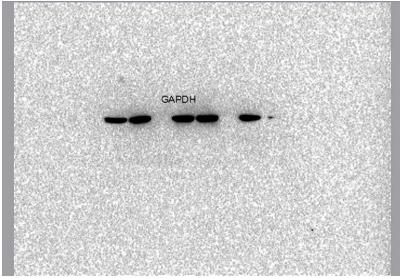


Exp.1,2,3 Expression of MMP9 in miR-4521 mimics transfected LM3

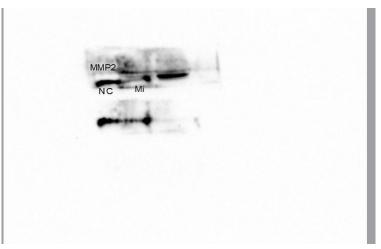
GAPDH for Exp.1,2& 3

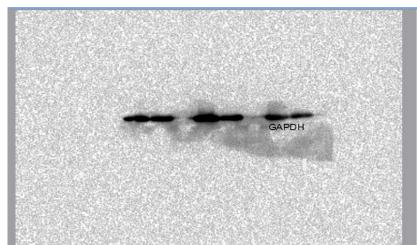


Exp.1,2 Expression of MMP2 in miR-4521 mimics transfected LM3



GAPDH for Exp.1,2

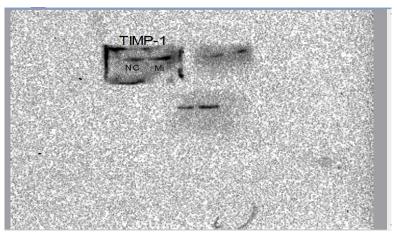


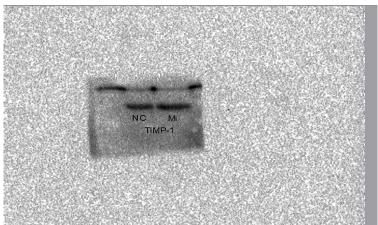


Exp.3Expression of MMP2 in miR-4521 mimics transfected LM3

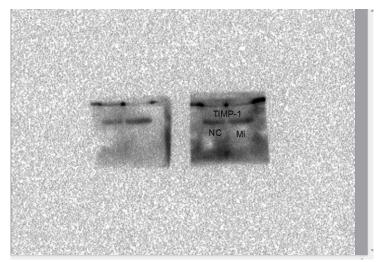
GAPDH for Exp.3

HepG2 Experiment N0.1,2 &3

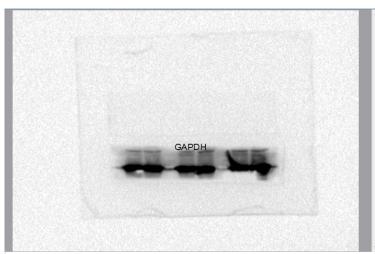




Exp.1,2 Expression of TIMP-1 in miR-4521 mimics transfected HEPG2

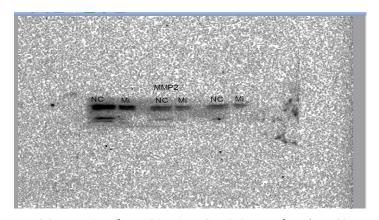


Exp.3 Expression of TIMP-1 in miR-4521 mimics transfected HEPG2

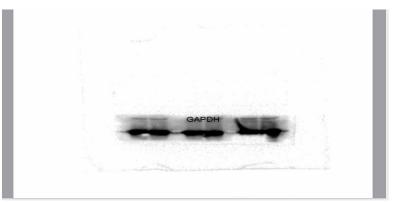


GAPDH for Exp.1,2& 3

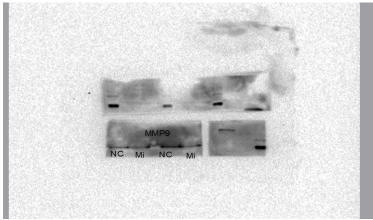
Experiment N0.1,2 &3

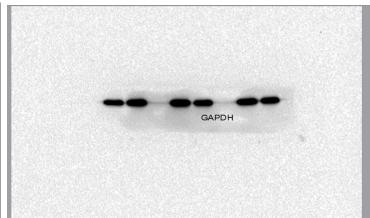


Exp.1,2,3 Expression of MMP2 in miR-4521 mimics transfected HEPG2



GAPDH for Exp.1,2& 3

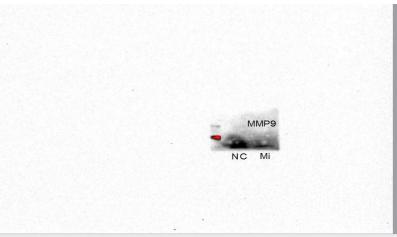


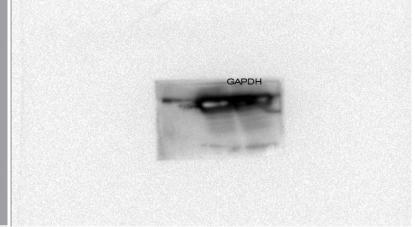


Exp.1,2 Expression of MMP9 in miR-4521 mimics transfected HEPG2

GAPDH for Exp.1,2

Experiment N0.3



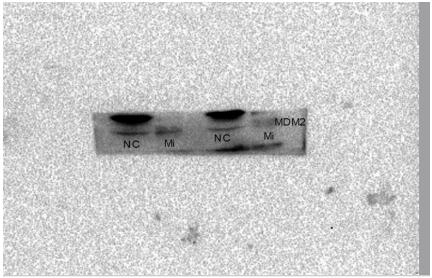


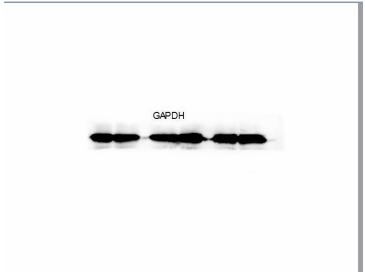
Exp.3 Expression of MMP9 in miR-4521 mimics transfected HEPG2

GAPDH for Exp.3

D.

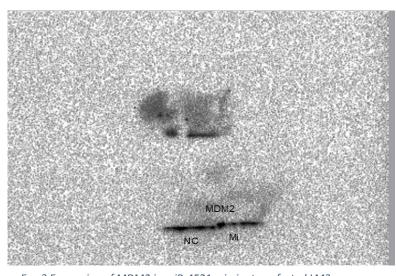
HCCLM3



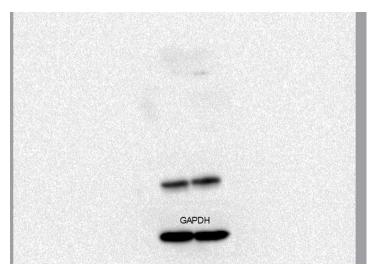


Exp.1,2 Expression of MDM2 in miR-4521 mimics transfected LM3

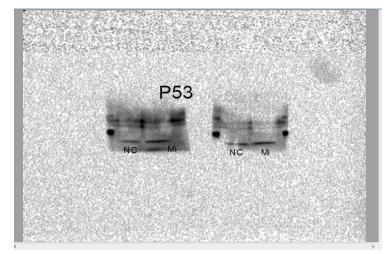
GAPDH for Exp.1,2







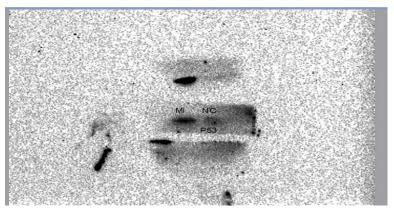
GAPDH for Exp.3



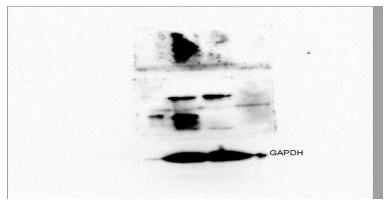
Exp.1,2 Expression of P53 in miR-4521 mimics transfected LM3



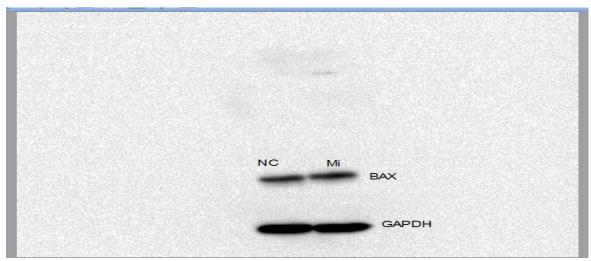
GAPDH for Exp.1,2



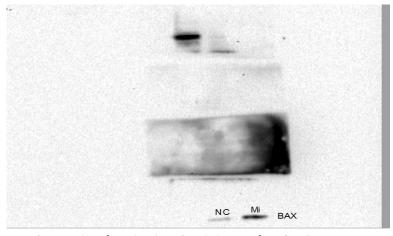
Exp.3 Expression of P53 in miR-4521 mimics transfected LM3



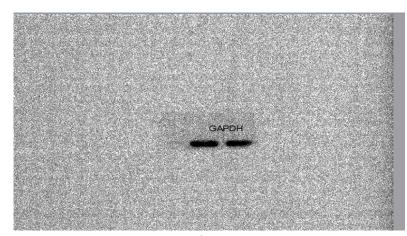
GAPDH for Exp.3



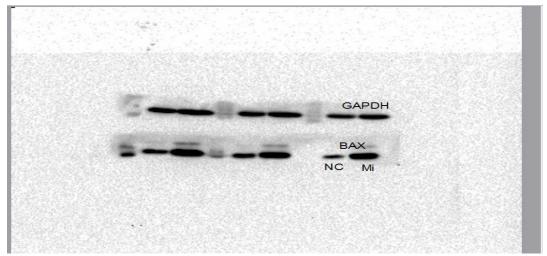
Exp.1 Expression of BAX in miR-4521 mimics transfected LM3 with GAPDH



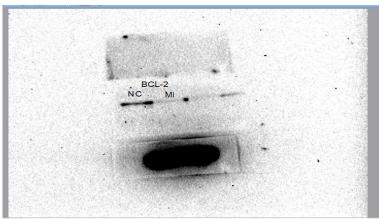
Exp.2 Expression of BAX in miR-4521 mimics transfected LM3



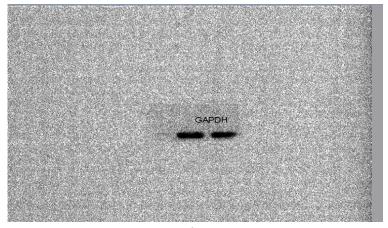
GAPDH for Exp.2



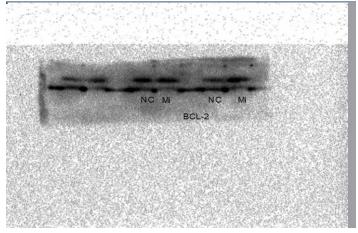
Exp.3 Expression of BAX in miR-4521 mimics transfected LM3 with GAPDH



Exp.1 Expression of BCL-2 in miR-4521 mimics transfected LM3



GAPDH for Exp.1

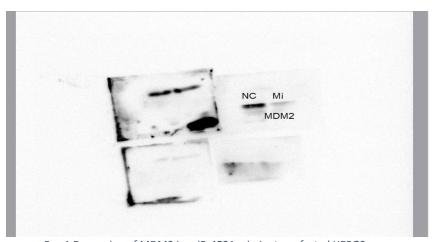


GAPDH

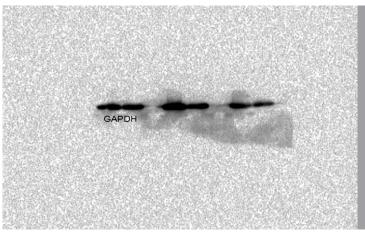
Exp. 2, 3 Expression of BCL-2 in miR-4521 mimics transfected LM3

GAPDH for Exp.2,3

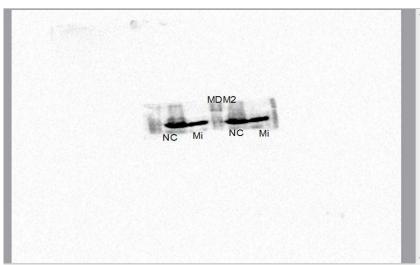
HepG2 Experiment N0.1

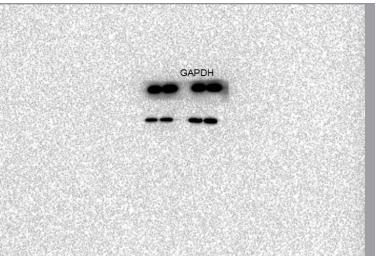






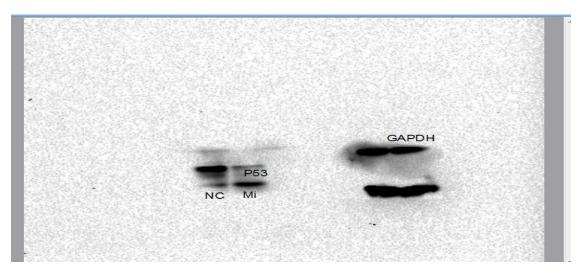
GAPDH for Exp.1



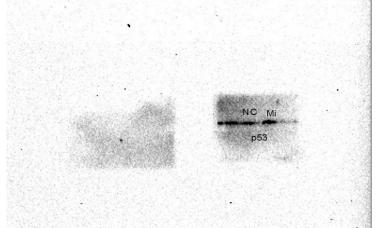


Exp.2,3 Expression of MDM2 in miR-4521 mimics transfected HEPG2

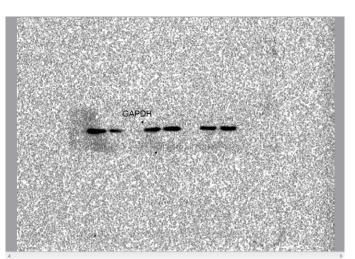
GAPDH for Exp.2,3



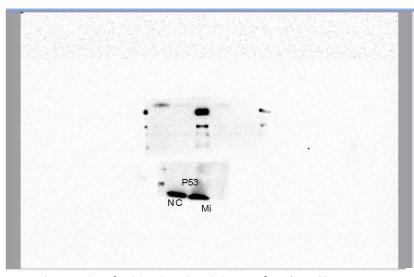
Exp.1 Expression of P53 in miR-4521 mimics transfected HEPG2 with GAPDH



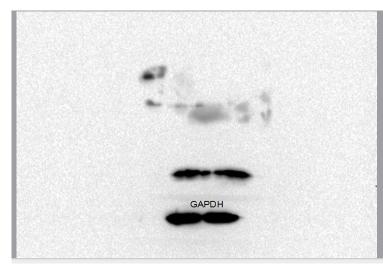
Exp.2 Expression of P53 in miR-4521 mimics transfected HEPG2



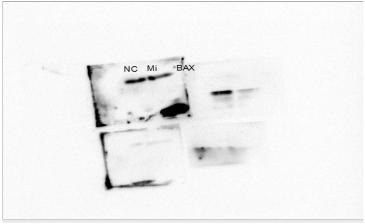
GAPDH for Exp.2



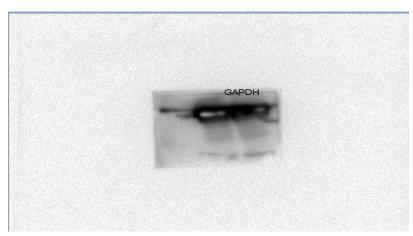
Exp.3 Expression of P53 in miR-4521 mimics transfected HEPG2



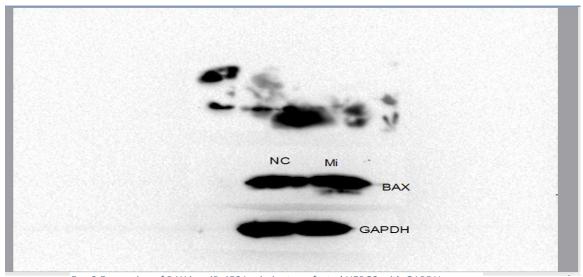
GAPDH for Exp.3



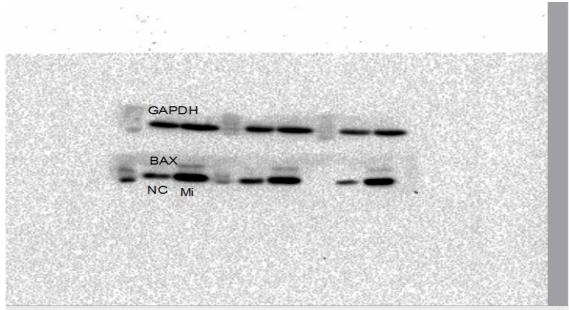




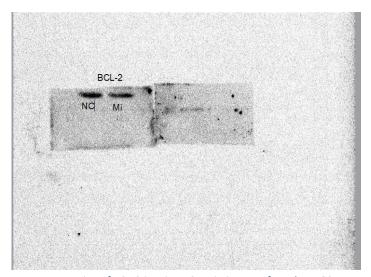
GAPDH for Exp.1



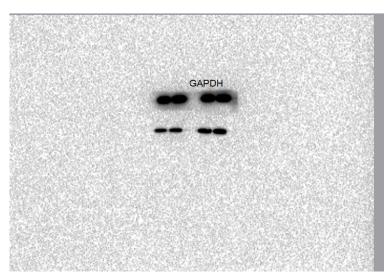
Exp.2 Expression of BAX in miR-4521 mimics transfected HEPG2 with GAPDH



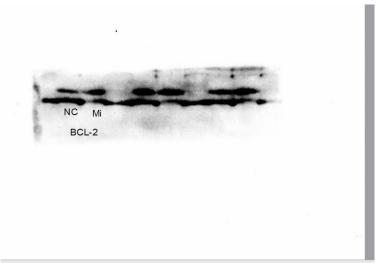
Exp.3 Expression of BAX in miR-4521 mimics transfected HEPG2 with GAPDH



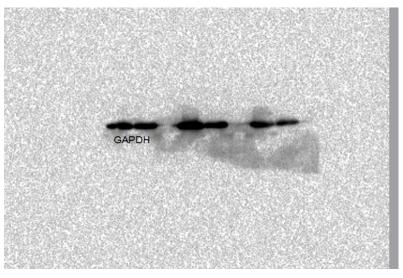
Exp.1 Expression of BCL-2 in miR-4521 mimics transfected HEPG2



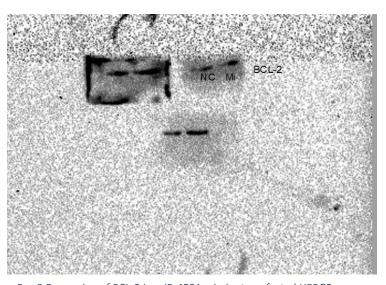
GAPDH for Exp.1



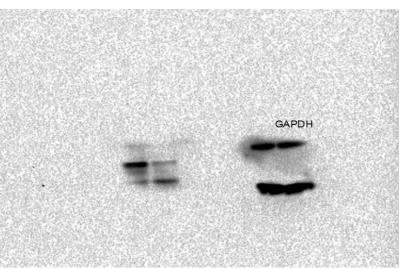




GAPDH for Exp.2



Exp.3 Expression of BCL-2 in miR-4521 mimics transfected HEPG2

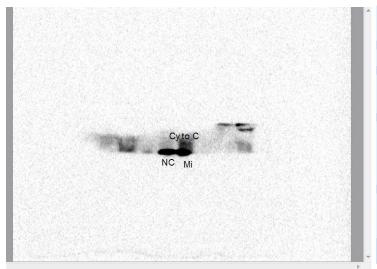


GAPDH for Exp.3

E.

HCCLM3

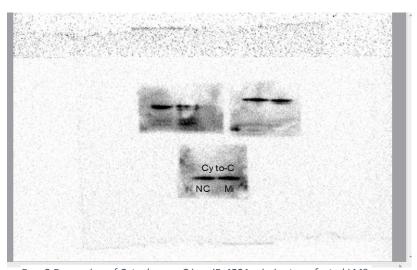
Experiment N0.1



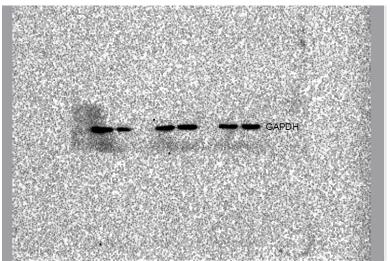
GAPDH

Exp. 1 Expression of Cytochrome-C in miR-4521 mimics transfected LM3

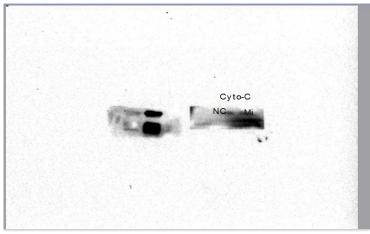
GAPDH for Exp.1



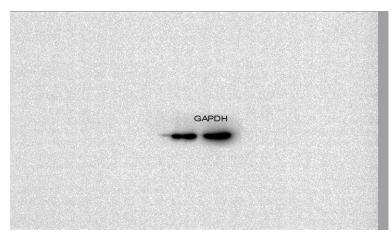
Exp. 2 Expression of Cytochrome-C in miR-4521 mimics transfected LM3



GAPDH for Exp.2

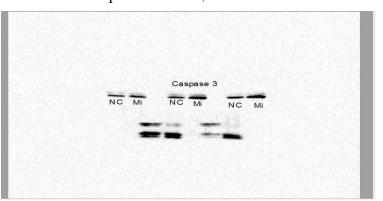


Exp. 3 Expression of Cytochrome-C in miR-4521 mimics transfected LM3



GAPDH for Exp.3

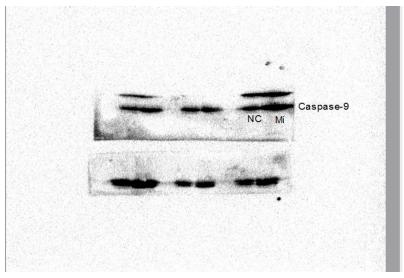
Experiment No.1, 2 &3

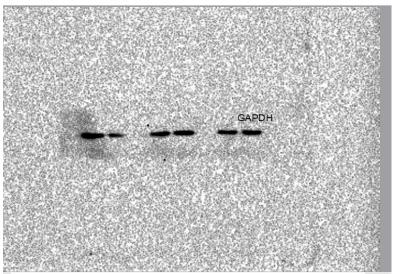


Exp.1,2 & 3 Expression of Caspase-3 in miR-4521 mimics transfected LM3



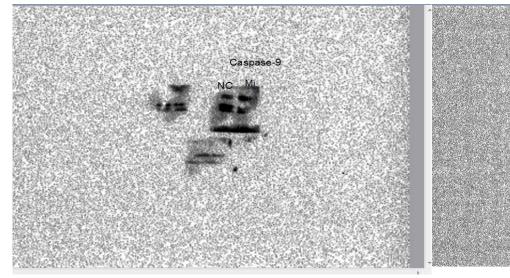
GAPDH for Exp.1,2 & 3

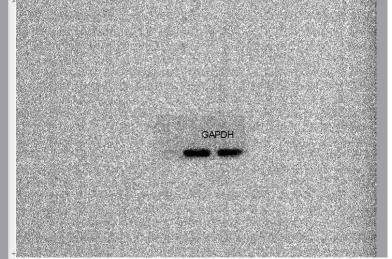




Exp.1 Expression of Caspase-9 in miR-4521 mimics transfected LM3

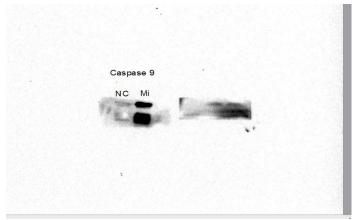
GAPDH for Exp.1



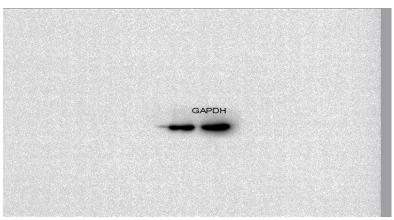


Exp.2 Expression of Caspase-9 in miR-4521 mimics transfected LM3

GAPDH for Exp.2

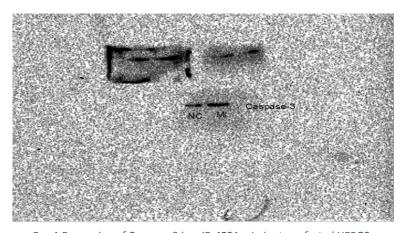


Exp.3 Expression of Caspase-9 in miR-4521 mimics transfected LM3

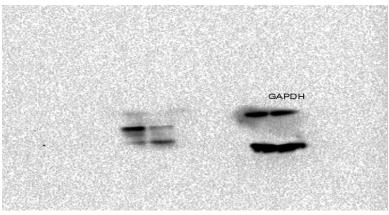


GAPDH for Exp.3

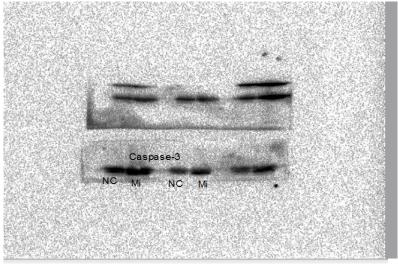
HepG2 Experiment N0.1



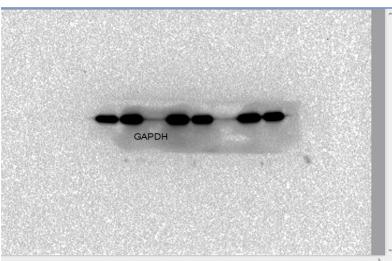
Exp.1 Expression of Caspase-3 in miR-4521 mimics transfected HEPG2



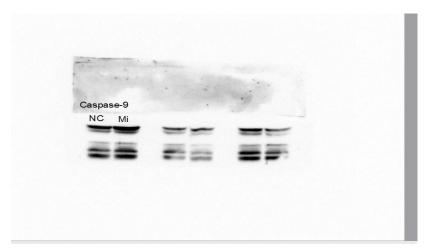
GAPDH for Exp.1



Exp.2, 3Expression of Caspase-3 in miR-4521 mimics transfected HEPG2



GAPDH for Exp.2,3



Exp.1 Expression of Caspase-9 in miR-4521 mimics transfected HEPG2

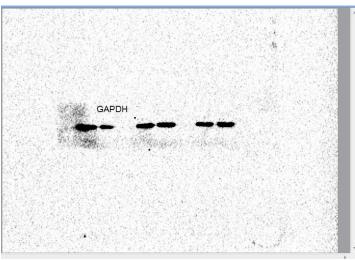


GAPDH for Exp.1

Experiment N0.2,3

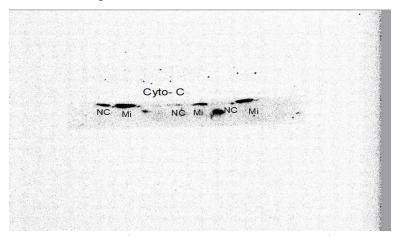


Exp.2, 3 Expression of Caspase-9 in miR-4521 mimics transfected HEPG2

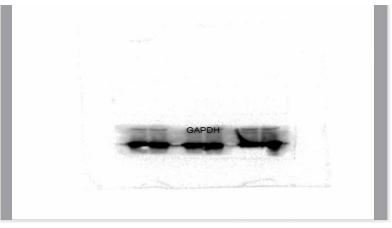


GAPDH for Exp.2,3

Experiment No.1,2,3



Exp.1, 2, 3 Expression of Cytochrome-C in miR-4521 mimics transfected HEPG2



GAPDH for Exp.1,2,3

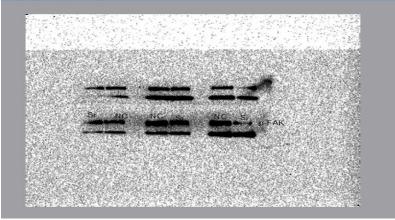
1.5 Figure 6 (A, B, C, D and E), original blots

Expression of signaling protein transfected with si-FAM129A in HCCLM3 and HepG2 cells.

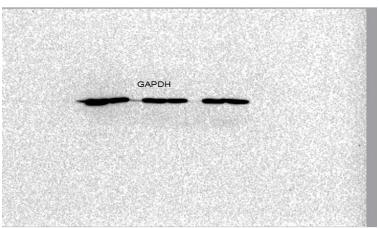
A.

HCCLM3

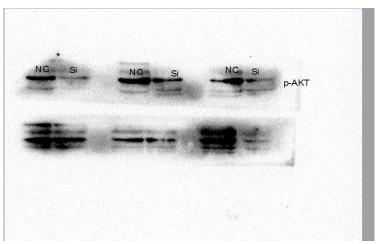
Experiment No.1,2,3



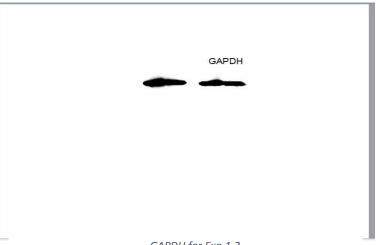
Exp.1, 2, 3 Expression of p-FAK in si-FAM129A transfected LM3



GAPDH for Exp.1,2,3



Exp.1, 2, 3 Expression of p-AKT in si-FAM129A transfected LM3



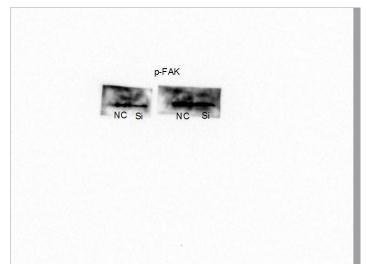
GAPDH for Exp.1,2



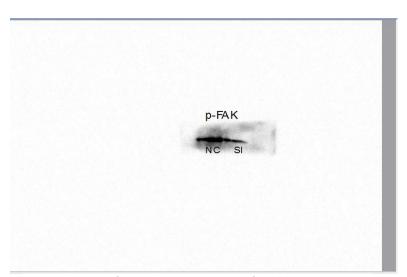
GAPDH for Exp.3

A.

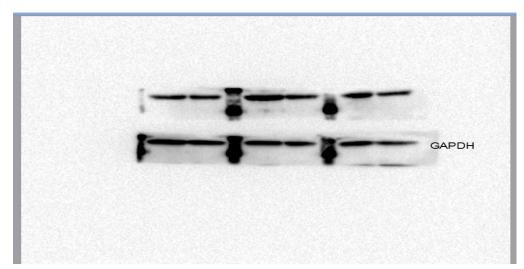
HepG2



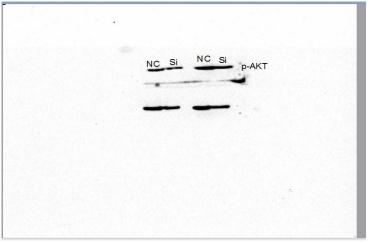
Exp.1,2 Expression of p-FAK in si-FAM129A transfected HEPG2

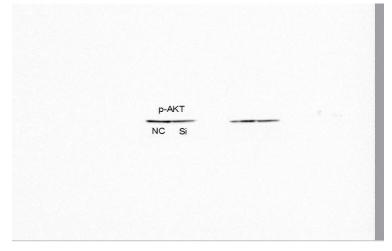


Exp3 Expression of p-FAK in si-FAM129A transfected HEPG2



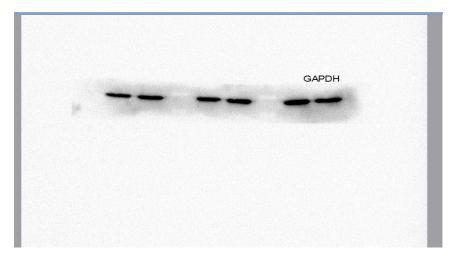
GAPDH for Exp.1,2 &3





Exp.1,2 Expression of p-AKT in si-FAM129A transfected HEPG2

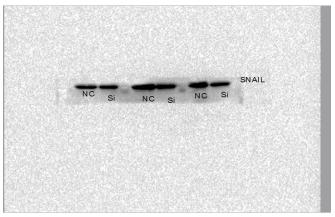
Exp.3 Expression of p-AKT in si-FAM129A transfected HEPG2



GAPDH for Exp.1,2 &3

B.

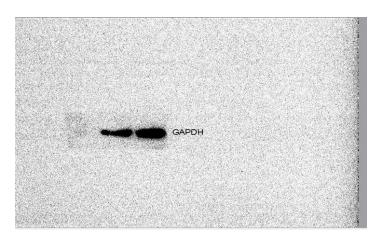
HCCLM3



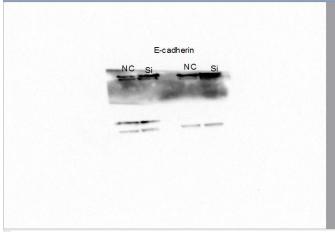
GAPDH

Exp.1, 2, 3 Expression of SNAIL in si-FAM129A transfected LM3

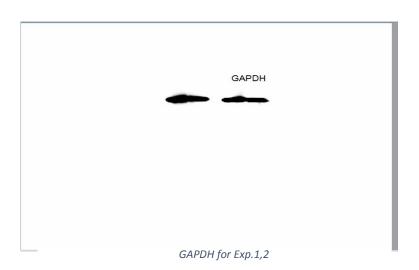
GAPDH for Exp.1,2

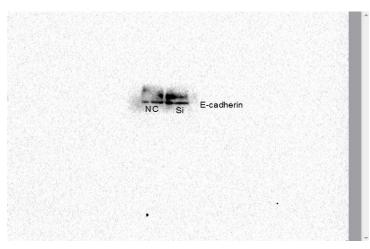


GAPDH for Exp.3

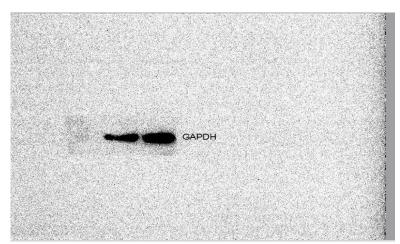


Exp.1, 2 Expression of E-cadherin in si-FAM129A transfected LM3

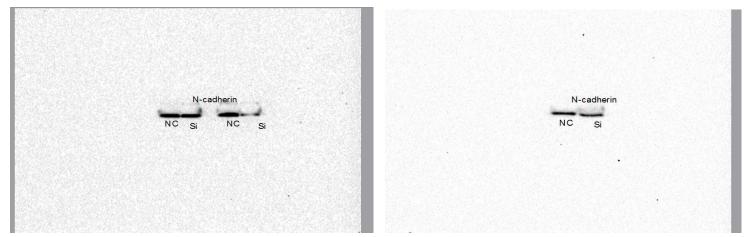




Exp. 3 Expression of E-cadherin in si-FAM129A transfected LM3

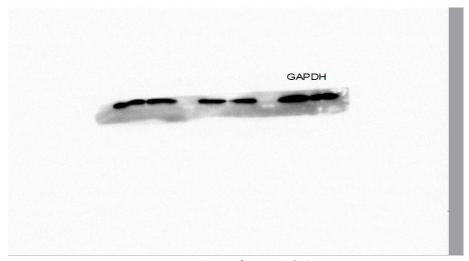


GAPDH for Exp.3

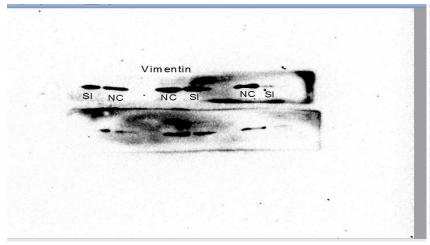


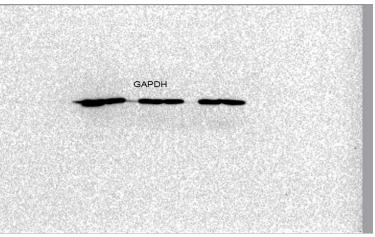
Exp.1, 2& 3 Expression of N-cadherin in si-FAM129A transfected LM3

Exp.3 Expression of N-cadherin in si-FAM129A transfected LM3



GAPDH for Exp1,2 & .3



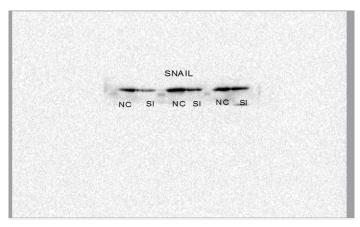


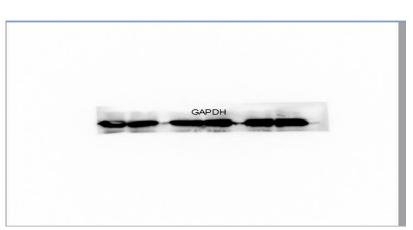
Exp.1, 2& 3 Expression of Vimentin in si-FAM129A transfected LM3

GAPDH for Exp1,2 & .3

B.

HepG2



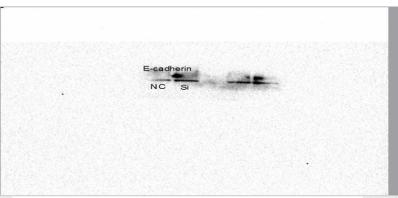


Exp.1, 2& 3 Expression of SNAIL in si-FAM129A transfected HEPG2

GAPDH for Exp1,2 & .3



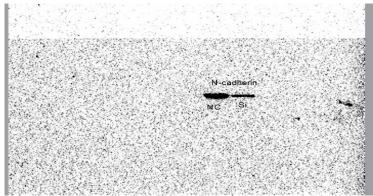
Exp.1, 2Expression of E-cadherin in si-FAM129A transfected HEPG2



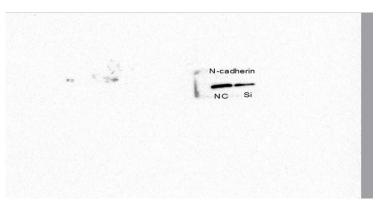
Exp.3Expression of E-cadherin in si-FAM129A transfected HEPG2



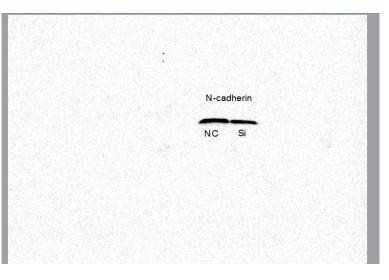
GAPDH for Exp1,2 & .3



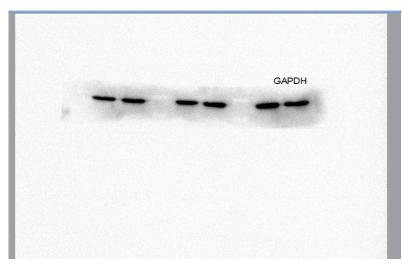
Exp.1Expression of N-cadherin in si-FAM129A transfected HEPG2



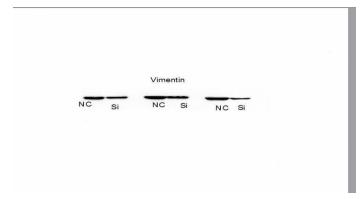
Exp.2Expression of N-cadherin in si-FAM129A transfected HEPG2

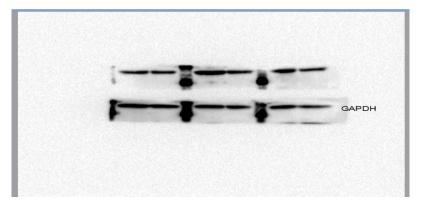


Exp.3 Expression of N-cadherin in si-FAM129A transfected HEPG2



GAPDH for Exp1,2 & .3



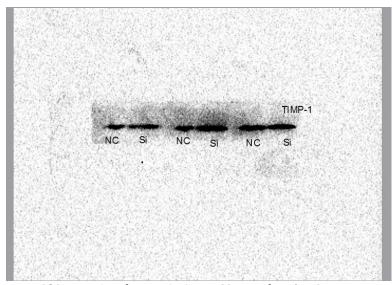


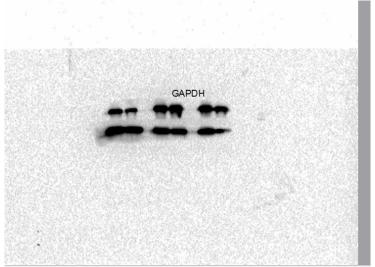
Exp.1,2 & 3 Expression of Vimentin in si-FAM129A transfected HEPG2

GAPDH for Exp1,2 & .3

C.

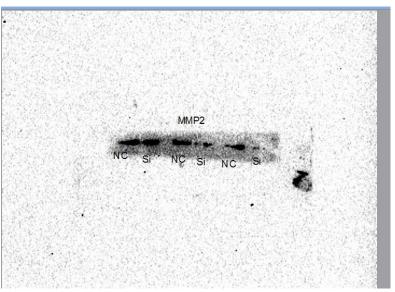
HCCLM3



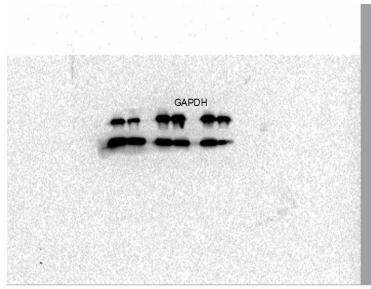


Exp.1, 2&3 Expression of TIMP-1 in si-FAM129A transfected LM3

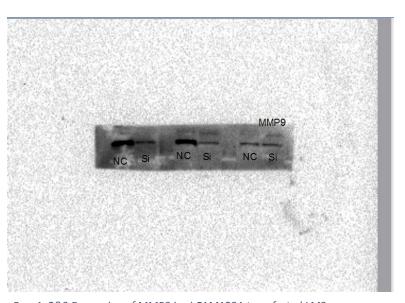
GAPDH foe Exp.1,2,3



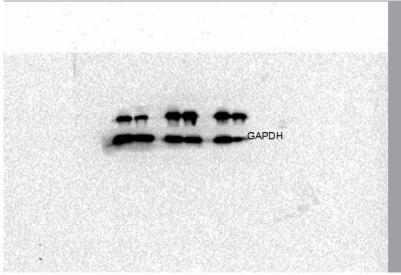
Exp:1,2 &3 Expression of MMP2 in si-FAM129A transfected LM3



GAPDH for Exp.1,2& 3



Exp; 1, 2&3 Expression of MMP9 in si-FAM129A transfected LM3

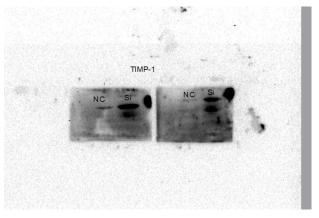


GAPDH for Exp 1,2,3

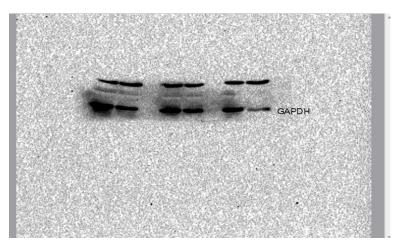
C.

HepG2

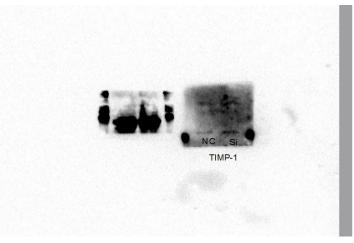
Experiment No.1, 2



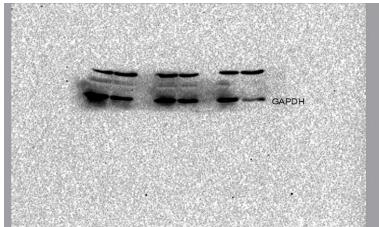
Exp.1,2 Expression of TIMP-1 in si-FAM129A transfected HEPG2



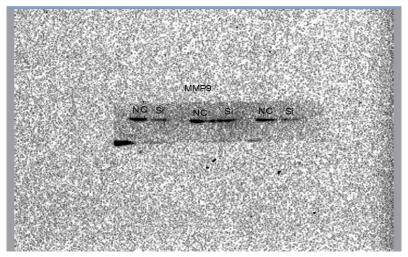
GAPDH for Exp1,2

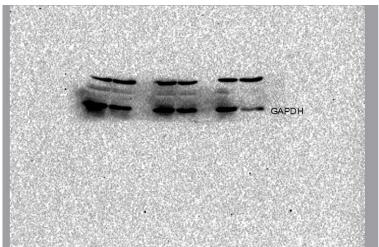


Exp.3 Expression of TIMP-1 in si-FAM129A transfected HEPG2



GAPDH for Exp.3



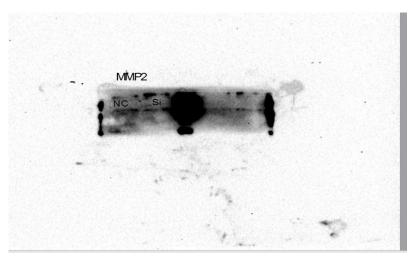


Exp.1,2 &3 Expression of MMP9 in si-FAM129A transfected HEPG2

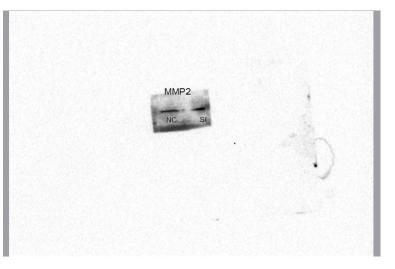
GAPDH for Exp.1,2,3



Exp.1 Expression of MMP2 in si-FAM129A transfected HEPG2



Exp.2 Expression of MMP2 in si-FAM129A transfected HEPG2



Exp.3 Expression of MMP2 in si-FAM129A transfected HEPG2

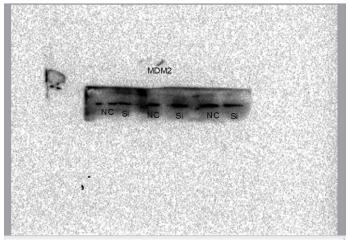


GAPDH for Exp.1,2,3

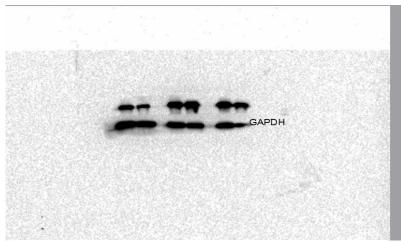
C.

HCCLM3

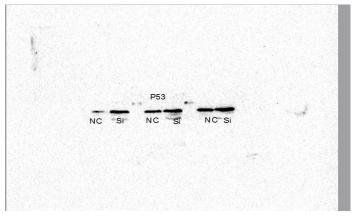
Experiment No.1,2 &3



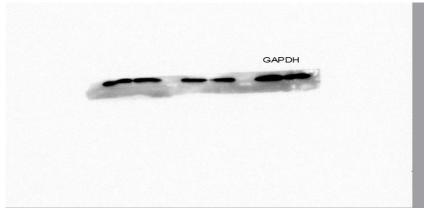
Exp.1,2 &3 Expression of MDM2 in si-FAM129A transfected LM3



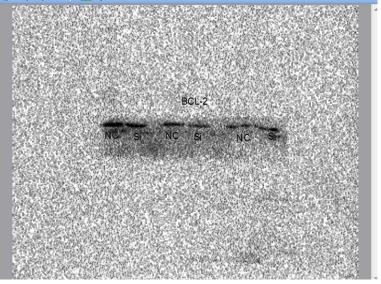
GAPDH for Exp.1,2,3



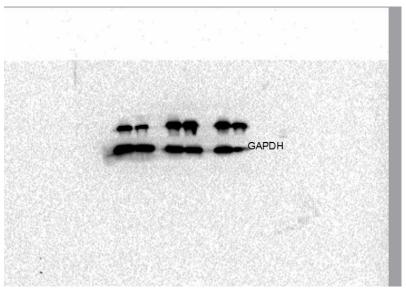
Exp.1,2 &3 Expression of P53 in si-FAM129A transfected LM3



GAPDH for Exp.1,2,3



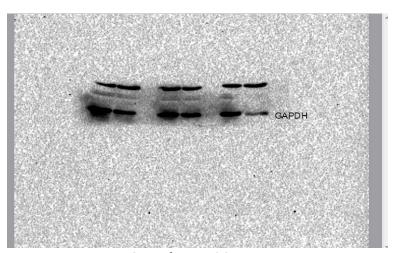
Exp.1,2 &3 Expression of BCL-2 in si-FAM129A transfected LM3



GAPDH for Exp.1,2,3



Exp. 1,2 &3 Expression of BAX in si-FAM129A transfected LM3

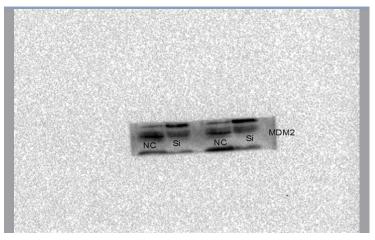


GAPDH for Exp.1,2,3

C.

HEPG2

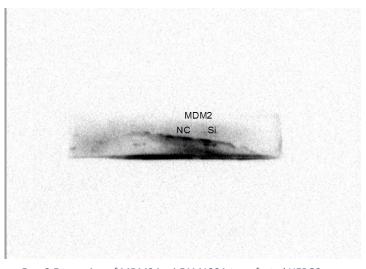
Experiment No.1,2 &3



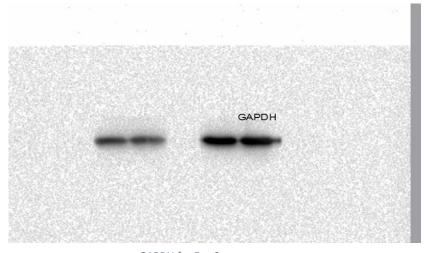
Exp. 1,2 Expression of MDM2 in si-FAM129A transfected HEPG2

GAPDH

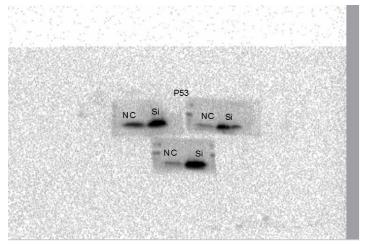
GAPDH for Exp.1,2

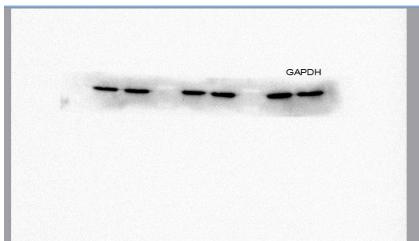


Exp. 3 Expression of MDM2 in si-FAM129A transfected HEPG2



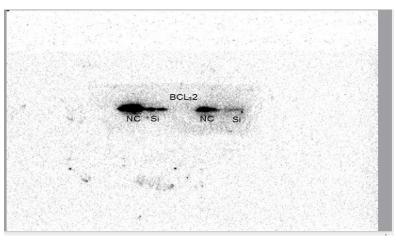
GAPDH for Exp.3



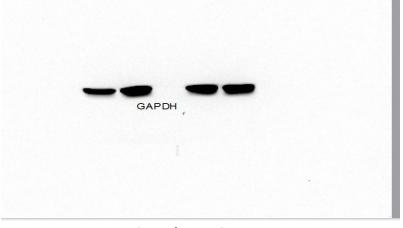


Exp. 1,2 &3 Expression of P53 in si-FAM129A transfected HEPG2

GAPDH for Exp.1,2,3

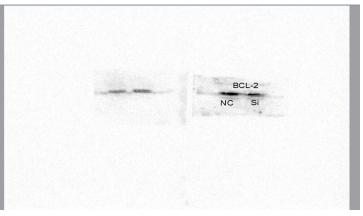


Exp. 1,2 Expression of BCL-2 in si-FAM129A transfected HEPG2

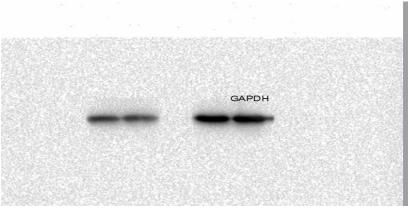


GAPDH for Exp.1,2

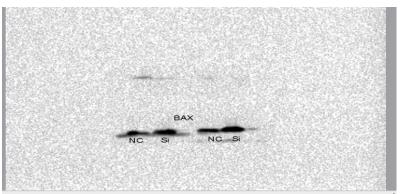
Experiment No.3



Exp. 3 Expression of BCL-2 in si-FAM129A transfected HEPG2



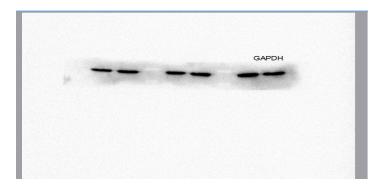
GAPDH for Exp.3



Exp. 1,2 Expression of BAX in si-FAM129A transfected HEPG2



Exp 3 Expression of BAX in si-FAM129A transfected HEPG2

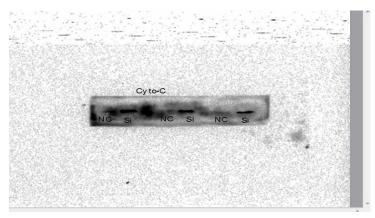


GAPDH for Exp.1,2,3

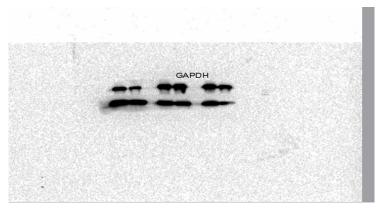
D.

HCCLM3

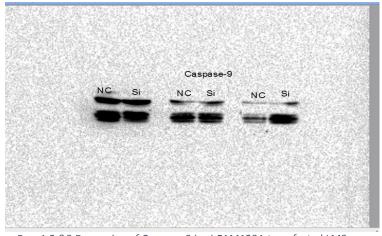
Experiment No.1,2 &3



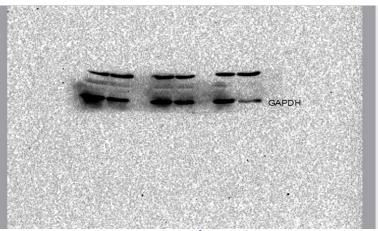
Exp. 1,2,3 Expression of Cytochrome-C in si-FAM129A transfected LM3



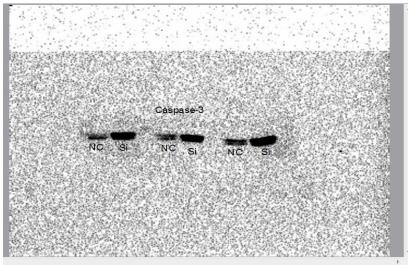
GAPDH for Exp.1,2,3



Exp. 1,2 &3 Expression of Caspase-9 in si-FAM129A transfected LM3



GAPDH for Exp.1,2,3



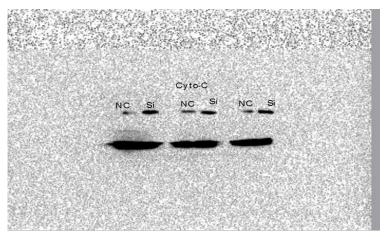
GAPDH

Exp. 1, 2& 3 Expression of Caspase-3 in si-FAM129A transfected LM3

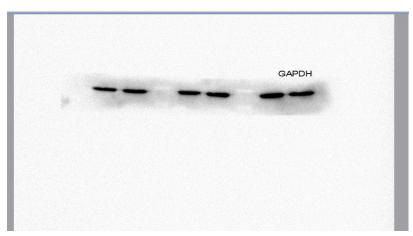
GAPDH for Exp.1,2,3

D.

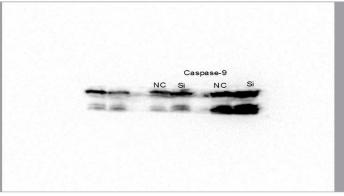
HEPG2



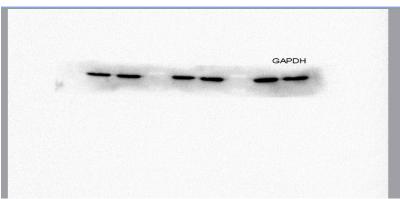
Exp. 1,2& 3 Expression of Cytochrome-C in si-FAM129A transfected HEPG2



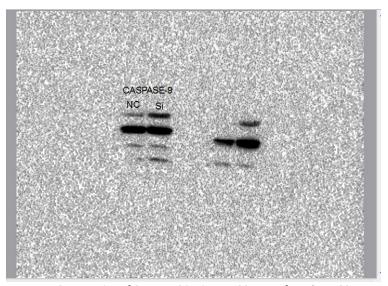
GAPDH foe Exp.1,2,3



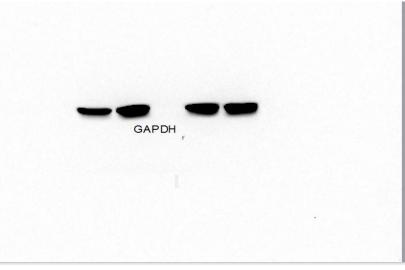
Exp. 1,2 Expression of Caspase-9 in si-FAM129A transfected HEPG2



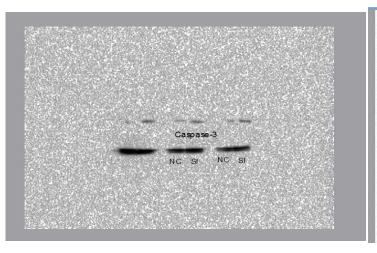
GAPDH for Exp.1,2,

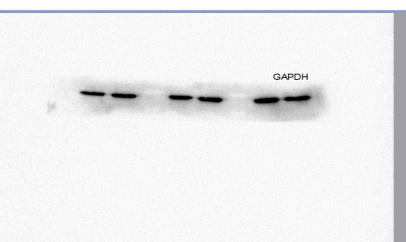


Exp. 3 Expression of Caspase-9 in si-FAM129A transfected HEPG2



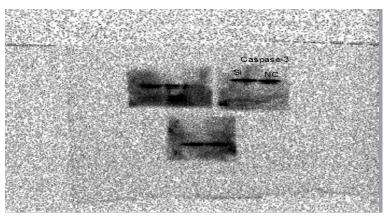
GAPDH for Exp.3





Exp. 1,2 Expression of Caspase-3 in si-FAM129A transfected HEPG2

GAPDH for Exp.1,2



Exp. 3 Expression of Caspase-3 in si-FAM129A transfected HEPG2



GAPDH for Exp.3