

**Orosomuroid 2 inhibits tumor metastasis and is upregulated by CCAAT/enhancer binding protein  $\beta$  in hepatocellular carcinomas**

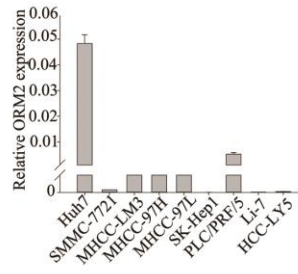
**Supplementary Material**

<b>Supplementary Table 1.</b> The PCR primers for qRT-PCR.		
ORM2	Forward	TCGGTTCAGGAGATCCAAGC
	Reverse	GAACAGCAGG GAGCAACAT
C/EBP $\beta$	Forward	TCCAAACCAACCGCACAT
	Reverse	GCAGAGGGAGAAGCAGAGAG

**Supplementary Table 2.** Primers for vector constructs.

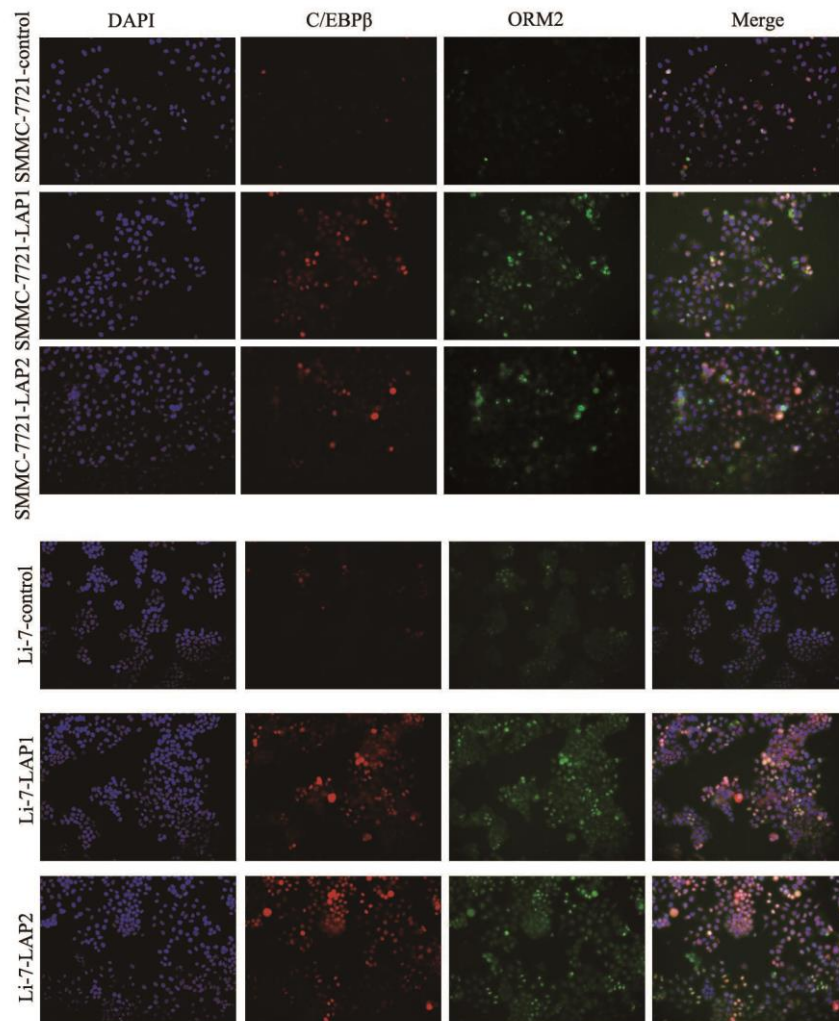
ORM2	Forward	CGCGGATCCATGGCGCTGTCCTGGGTTC
	Reverse	CCGGAATTCCTAGGATTCCCCCTCCTCCT
ORM2-promoter -1500bp	Forward	CGCGGTACCGTAGAGGAAGCAAAAAC
	Reverse	CCGAAGCTTCTGTAAGAACCCAGGACA
ORM2-promoter -500bp	Forward	CGCGGTACCATTGGTGAAAGAGAAGCAA
	Reverse	CCGAAGCTTCTGTAAGAACCCAGGACA
ORM2-promoter -300bp	Forward	CGCGGTACCCACAAACATACATCCCAT
	Reverse	CCGAAGCTTCTGTAAGAACCCAGGACA
ORM2-promoter -mutant	Big primers	GTTTGGAGGCGGTGCTCCGAGCTGGCCTTTCATTTCCC AAGTGCTGGCAGGATTGTGTCA
C/EBP $\beta$ (LAP1)	Forward	CGCGGATCCATGCAACGCCTGGTGGCCT
	Reverse	CCGGAATTCCTAGCAGTGGCCGGAGGAG
C/EBP $\beta$ (LAP2)	Forward	CGCGGATCCATGGAAGTGGCCAACTTCT
	Reverse	CCGGAATTCCTAGCAGTGGCCGGAGGAG
C/EBP $\beta$ (LIP)	Forward	CGCGGATCCATGGCGGCGGGCTTCCCGT
	Reverse	CCGGAATTCCTAGCAGTGGCCGGAGGAG
sh-ORM2-1	Forward	CGCGTCCCCGAAACGAGGAGTACAATAATTCAAGAGAT TATTGTACTCCTCGTTTCTTTTTGGAAAT
	Reverse	CGATTTCCAAAAGAAACGAGGAGTACAATAATCTCTTG AATTATTGTACTCCTCGTTTCGGGGA
sh-ORM2-2	Forward	CGCGTCCCCGCTTCTATAACTCCAGTTATTCAAGAGATAA CTGGAGTTATAGAAGCTTTTTGGAAAT
	Reverse	CGATTTCCAAAAGCTTCTATAACTCCAGTTATCTCTTGA ATAACTGGAGTTATAGAAGCGGGA

A



### Supplementary Figure 1

**The expression of ORM2 in HCC cell lines.** (a) qRT-PCR was performed to detect ORM2 expression in HCC cell lines.

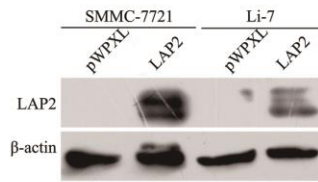


## Supplementary Figure 2

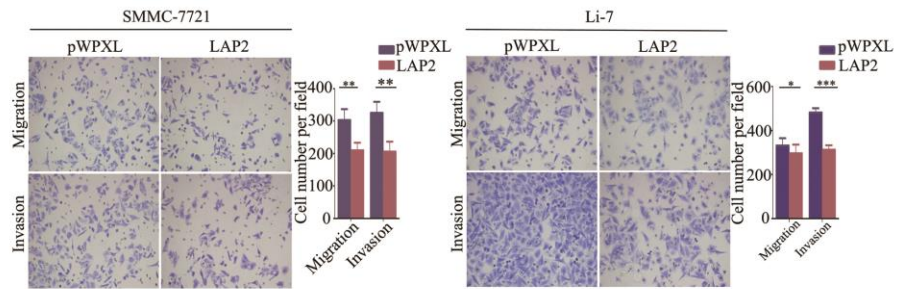
### Immunofluorescent co-staining of LAP1/2 and ORM2 proteins in HCC cell lines.

Immunofluorescence assays of co-expression of LAP1/2 (red) and ORM2 (green) proteins were carried out in SMMC-7721 and Li-7 cells with stably LAP1/2 overexpression (SMMC-7721-LAP1, -LAP2; Li-7-LAP1, -LAP2) and in the untreated control cells (SMMC-7721-control; Li-7- control). DAPI was used to counter-staining for nuclei (blue).

A



B



### Supplementary Figure 3

**LAP2 represses HCC cell migration and invasion ability *in vitro*.** (a) Western blotting of LAP2 protein levels in SMMC-7721 and Li-7 cells stably transfected with LAP2 or the control. (b) The migration and invasion ability of SMMC-7721 and Li-7 cells transfected with LAP2 were assessed by transwell assays; cells transfected with the empty vector were used as a control. \*,  $p < 0.05$ , \*\*,  $p < 0.01$ , \*\*\*,  $p < 0.001$ .