

Supplemental information:

Figure S1. (A) General hnRNP L-binding CARE pattern and experimentally validated hnRNP L target mRNAs and CARE sequences. (B) Sequences of the CARE and GAIT element in DNMT1L and PHF21A. Potential miRNA targeting sequences that are overlapped with the GAIT element. (C) Putative GAIT element structures of DNMT1L and PHF21A.

Figure S2. (A) Gene knockdown efficiency of hnRNP L siRNAs. The hnRNP L siRNA #3 was used. (B) mRNA expression of DNMT1L and PHF21A under treatment of IFN- γ and hypoxia. (C) Src kinase activity is required for hnRNP L-VEGFA interaction. U937 cells were cultured in Hpx. for 24 h with herbimycin A (1 μ M) or PF-573228 (500 nM). Lysates were subjected to IP with anti-hnRNP L antibody, and qRT-PCR using VEGFA-specific probe.

Table S1. Translation state analysis of hypoxia-induced translational activated mRNAs. List of mRNAs whose translation efficiency is up- or down-regulated by hypoxia.

Table S2. CARE pattern search across human 3'-UTR database (PACdb and UTRef databases). The gene symbols of 6036 unique genes are listed. CARE sequences and positions were shown for the five novel hnRNP L-directed RNA switch mRNAs and miR-297 target sites were highlighted in red for CDK6, EIF5, and MKLN1.

Table S3. PatSearch analysis of human 3'-UTRs containing putative GAIT elements.

Table S4. Predicted miR-297 target mRNA list using the TargetScan web tool.

Table S5. List of 97 potential target mRNAs regulated by hnRNP L-directed, miR-297-dependent RNA switch.

Table S6. Taqman probes used in qPCR analysis

Gene	Catalog No. of probes
VEGFA	4331182; Hs00900055_m1
DNM1L	4331182; Hs01552605_m1
PHF21A	4331182; Hs01046543_m1
CDK6	4331182; Hs01026371_m1
EIF5	4331182; Hs01028811_g1
MKLN1	4331182; Hs00183783_m1
GAPDH	4331182; Hs02786624_g1
ACTB	4331182; Hs99999903_m1

Table S7. Antibodies used for IP and Western blot analyses

Antibodies	Source	Identifier	Diluter
EPRS antibody	Custom made	NA	IP 1:500 (<i>Cell</i> 149: 88-100)
hnRNP L antibody	Novus	NB120-6106	IP 1:500; IB 1:2000
β -actin antibody	Biovision	3662-100	IB 1:1000
DNM1L antibody	GeneTex	GTx109745	IB 1:500
PHF21A antibody	Abnova	331-430	IB 1:500
CDK6 antibody	CST	3136P	IB 1:1000
Caspase 3 antibody	CST	9662P	IB 1:1000
PARP antibody	CST	9542S	IB 1:1000
Phospho-Tyr antibody	Santa Cruz	sc-7020	IB 1:500
Mouse IgG	Santa Cruz	sc-2025	IP 1:500
Rabbit IgG	Santa Cruz	sc-2027	IP 1:500