Supplementary

Table S1 Oligonucleotides and their corresponding sequences.

Primer name	Forward	Reverse
ALKBH5	5'-TGTGCTCAGTGGATATGCTGC-3'	5'-GACTTTGTTTCCAACCGGGG-3'
FTO	5'-TGCCGAGGAACGAGAGCG-3'	5'-GGGGGTCAGATAAGGGAGCC-3'
METTL3 (23)	5'-CAAGCTGCACTTCAGACGAA-3'	5'-GCTTGGCGTGTGGTCTTT-3'
GAPDH	5'-AATCAAGTGGGGCGATGC-3'	5'-GCAGTTGGTGGTGCAGGA-3'
VIRMA	5'-TCCGAGTCATACCCCCAGGA-3'	5'-AACAGGGGCACTTGGTTTGC-3'
YHDF1	5'-CATGAAGCATGTCGGCCACC-3'	5'-TGACTGTCCAGTAAGGTAGGGC-3'
YTHDF2	5'-GCCAGCTACAAGCACACCA-3'	5'-CCGTTGCTGCAGTCTGTGT-3'

Table S2 Cell lines, their characteristics and media information used for the study

Long name	Short name	Morphology	Species	Gender	Age (years)	Histology	Growth medium
CRL-9520	SV-HUC-1	Epithelial	Human	Male	11	Normal	F-12K + 10% FBS
5637	5637	Epithelial	Human	Male	68	Grade 2 carcinoma	RPMI-1640 + 10% FBS
HTB-1	J82	Epithelial	Human	Male	58	TCC grade 3	McCoy's 5a M M + 10% FBS
CRL-1473	HT-1197	Epithelial	Human	Male	44	TCC grade 4	EMEM + 10% FBS
CRL-2169	SW 780	Epithelial	Human	Female	80	TCC grade 1	DMEM + 10% FBS
CRL-1472	HT 1376	Epithelial	Human	Female	58	Grade 3 carcinoma	RPMI-1640 + 10% FBS
HTB-5	TCCSUP	Epithelial	Human	Female	67	Grade 4	EMEM + 10% FBS

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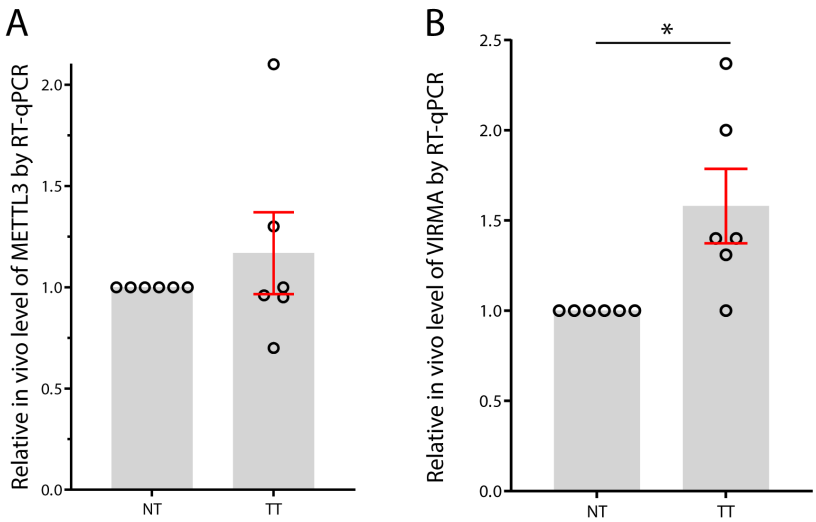

Figure S1 Elevated level of writers *in vivo* and *ex vivo*. Quantification of Methyltransferase-Like 3 (METTL3) (A) and Vir-like m^{6}A Methyltransferase associated (VIRMA) (B) mRNA expression in tumor tissue by Reverse Transcription Polymerase Chain Reaction (RT-qPCR). Six different tissues were used for VIRMA and METTL3 (N=8). Data information is the same as in *Figures 2,3*. *P≤0.05.

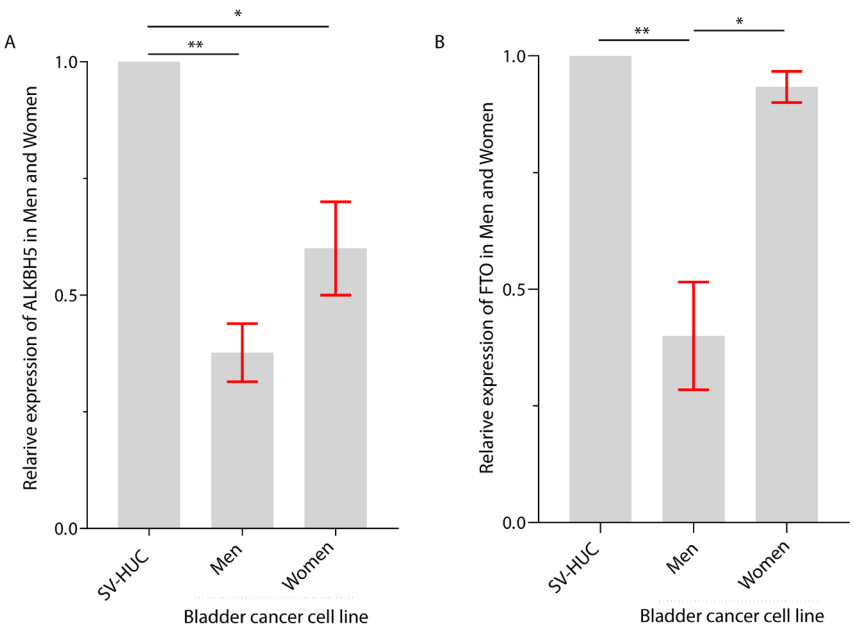

Figure S2 Comparison of ALKBH5 and FTO mRNA expression in men and women *in vitro*. RT-qPCR analysis on cell lines showing the expression of ALKBH5 (A) and FTO (B) in control cell (SVHUC) and bladder cells. Six different cell lines were used in triplicate each (N=6, n=3). Three cell lines were used for men and three for women (see *Table S2*). Data information is the same as in *Figures 2,3*. GAPDH was used as endogenous control and the SVHUC as calibrator. Results are represented as the mean +± SEM. *P≤0.02; **P≤0.002. Student *t*-test.

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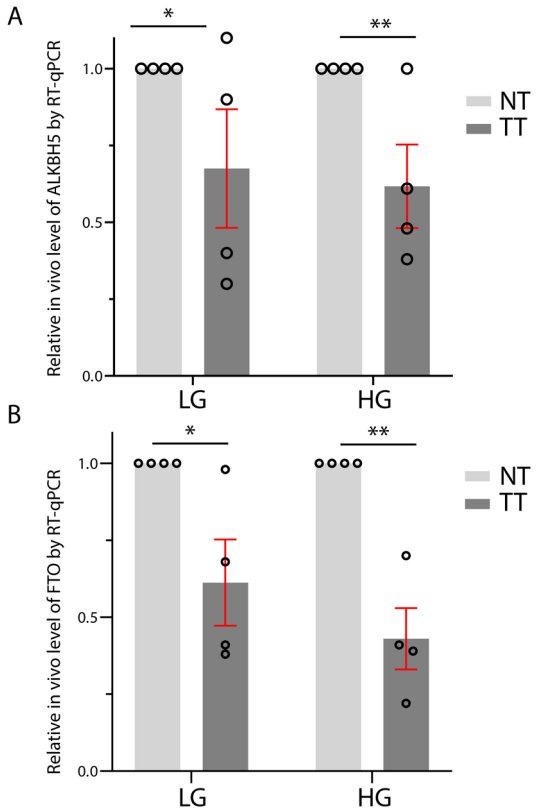

Figure S3 Erasers downregulation depending on grade tumors. *In vivo* level of Alkb Homolog 5 (ALKBH5) (A) and Fat Mass and Obesity Associated protein (FTO) (B) in low grade (LG) and high grade (HG) assessed by RT-qPCR. (A) The ALKBH5 level is lower in HG compared to LG. Data information: LG: N=6; HG: N=5. (B) The FTO expression level is lower in tumor tissue but there is no significant difference between LG and HG. Four tissues were used for each grade (LG: N=4; HG: N=5). The experiment was performed two times with three replicates for each qPCR run (n=3). The data information is the same as *Figures 2,3*. *P≤0.05; **P≤0.005.

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