

## **Supplementary Information for**

**The m<sup>6</sup>A demethylase FTO promotes esophageal cancer progression through  
YTHDF1-dependent posttranscriptional silencing of AKT3**

**Supplementary Information**

**Supplementary Tables:**

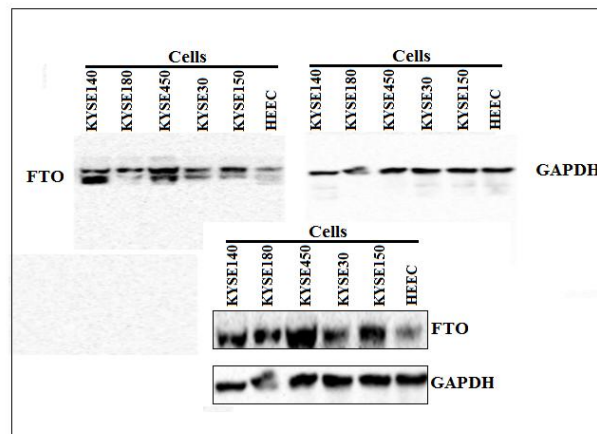
**Table S1. The clinical and pathological information of ESCC patients**

case	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ID	23138388	23139047	23139287	23139819	23139296	23140155	23141057	23141731	23143654	23145204	23145350	23152185	23151897	23174309
Gender	men	men	men	men	men	men	men	men	men	women	women	men	men	men
Age(years)	66	70	72	79	76	62	66	54	80	63	72	74	88	68
stage	Medium differentiation	Medium differentiation	Medium differentiation	High differentiation	Low differentiation	Low differentiation	Low differentiation	Low differentiation	Low differentiation	Low differentiation	Medium differentiation	Hypodifferentiation	Medium differentiation	Low differentiation
Grade	Invasive squamous cell carcinoma of esophagus	Esophageal squamous cell carcinoma	Invasive squamous cell carcinoma of esophagus	Esophageal squamous cell carcinoma	Invasive squamous cell carcinoma of esophagus	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Invasive squamous cell carcinoma of esophagus	Invasive squamous cell carcinoma of esophagus	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal infiltrative hypodifferentiated squamous cell carcinoma
case	15	16	17	18	19	20	21	22	23	24	25	26	27	28
ID	23151897	23148411	23151838	23151776	23151600	23153222	23152398	23156689	23156858	23155638	23165176	23164733	23169512	23173237
Gender	men	men	women	men	men	men	men	men	men	men	women	men	men	women
Age(years)	88	68	72	52	66	67	71	75	68	64	73	74	66	65
stage	Medium differentiation	Low differentiation	Medium differentiation	Medium differentiation	Medium differentiation	High differentiation	Hypodifferentiation	Medium differentiation	High differentiation	Medium differentiation	Low differentiation	Medium differentiation	Medium differentiation	Medium differentiation
Grade	Esophageal squamous cell carcinoma	Moderately poorly differentiated squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Esophageal squamous cell carcinoma	Basal squamous cell carcinoma of esophagus	Invasive squamous cell carcinoma of esophagus	Invasive squamous cell carcinoma of esophagus

**Table S2. List of qPCR primers**

m6A-RT-PCR	AKT3-STCODE-179-F	ATGGACTGCATGGACAATGA
	AKT3-STCODE-179-R	AGGTGCCCTGCTATGTGTA
	AKT3-3'UTR-164-F	TCACTAAGCTGTGGCTGGAA
	AKT3-3'UTR-164-R	ATGATTGCCCGTGAAGTCTC
3'UTR	AKT3-3'UTR contain m <sup>6</sup> A site RNA sequence-wt	TTGGTAGAAGGACTGAACAACCTGTT
	AKT3-3'UTR contain m <sup>6</sup> A site RNA sequence-mut	GTTCCTACCAAGAACTGAAGGCATAT
sh-RNA	si-AKT3-1	GGATGACTCTCATCTCGAAGGTTCAAGAGACCTTCGAGATGAGAGTCATCCTTTTTTG
	Top strand:	GATCCGGATGACTCTCATCTCGAAGGTTCAAGAGACCTTCGAGATGAGAGTCATCCTTTTTTG
	Bottom strand:	AATTCAAAAAAGGATGACTCTCATCTCGAAGGTTCTTGAACCTTCGAGATGAGAGTCATCCG
	si-AKT3-2	AAATAGCCGCTGCTGTGAGA
	Top strand:	GATCCGAAATAGCCGCTGCTGTGAGATTCAAGAGATCTCACAAGCAGCGGCTATTTTTTTTG
	Bottom strand:	AATTCAAAAAATTCCTCGAACGCTGCTGTGAGATCTCTTGAATCTCACAAGCAGCGGCTATTTTCG
si-AKT3-3	AAGAGCAGAGCAGCATAACGTAA	
	Top strand:	GATCCGAAGAGCAGAGCAGCATACAACGTAAATCAAGAGATTACGTTGTATGCTGCTGCTCTTTTTTTTG
	Bottom strand:	AATTCAAAAAAGAGCAGAGCAGCATACAACGTAAATCTTGAATACGTTGTATGCTGCTGCTCTTTTCG
Pull down	sense-AKT3	TGCTCTGCCTTGGACTATCTA
	Antisense-AKT3	TAGATAGTCCAAGGCAGAGACA
Rip	Q-AKT3-F	TGCTCTGCCTTGGACTATCTA
	Q-AKT3-R	CTGCATCTGTGATCCCTTCTT
Lentivirus	si-AKT3	TTCTCCGAACGTGTACAGTAA
	Top strand:	GATCCGTCTCCGAACGTGTACAGTAAATCAAGAGATTACGTGACACGTTCCGAGAATTTTTTC
	Bottom strand:	AATTGAAAAAATTCCTCGAACGCTGTACAGTAAATCTTGAATACGTGACACGTTCCGAGAACG
	LV-h-AKT3-E/B-F	AGAGGATCTATTTCCGGTGAATTCGCCACCATGAGCGATGTTACCATTG
LV-h-AKT3-E/B-R	TCACTTAAGCTTGGTACCGAGGATCTTCTGTCCTTGCAGAGTAGG	

**Supplementary Figures:**



**Fig S1. The full-length gels of the Figure1D, western analyses used in the revised manuscript.**

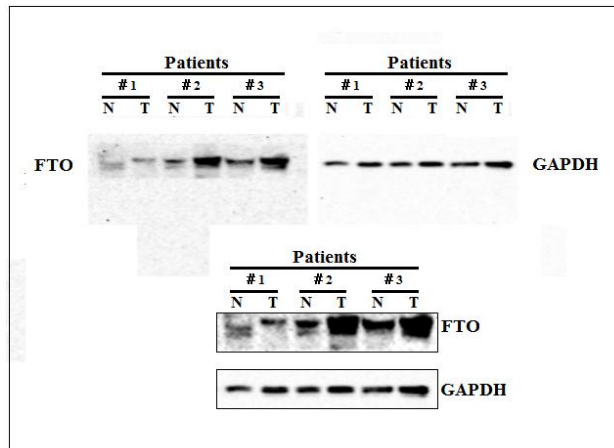


Fig S2. The full-length gels of the Figure1E, western analyses used in the revised manuscript.

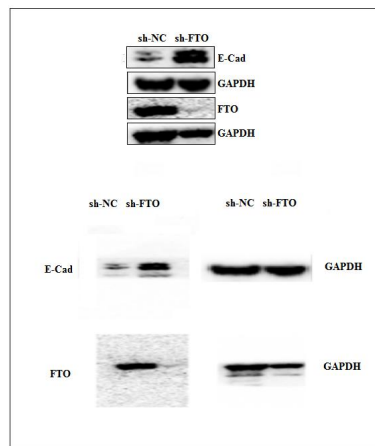


Fig S3. The full-length gels of the Figure2D, western analyses used in the revised manuscript.

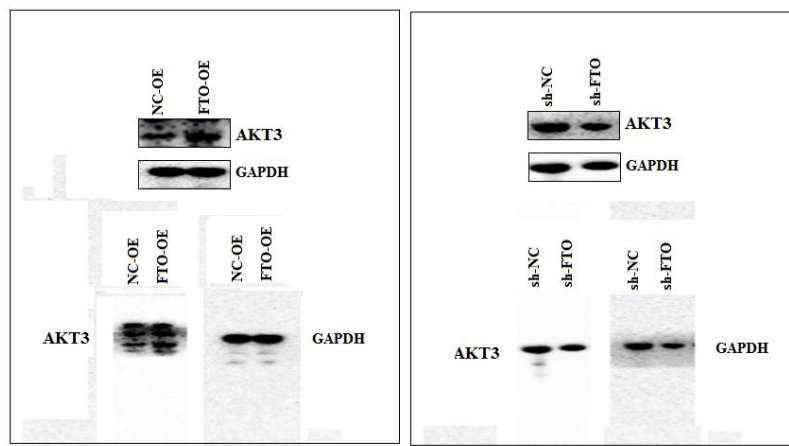


Fig S4. The full-length gels of the Figure5A and 5B, western analyses used in the revised manuscript.

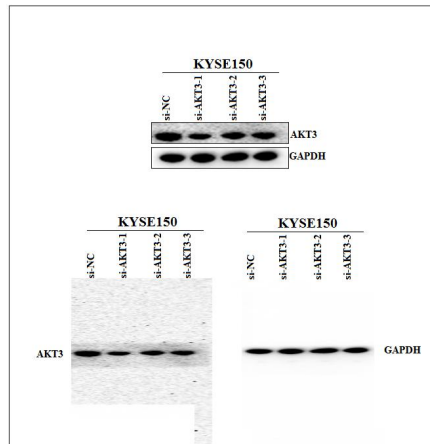


Fig S5. The full-length gels of the Figure5D, western analyses used in the revised manuscript.

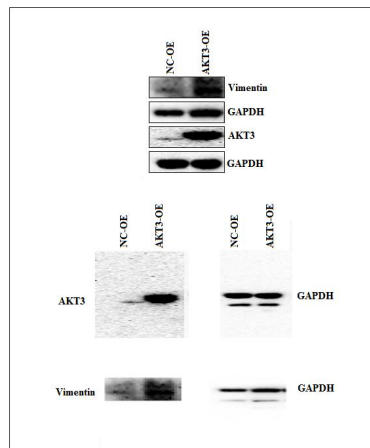


Fig S6. The full-length gels of the Figure5E, western analyses used in the revised manuscript.

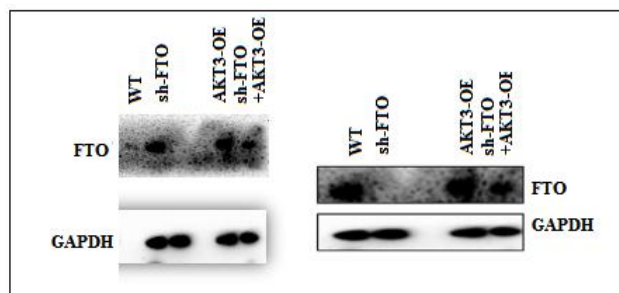


Fig S6. The full-length gels of the Figure6B, western analyses used in the revised manuscript.

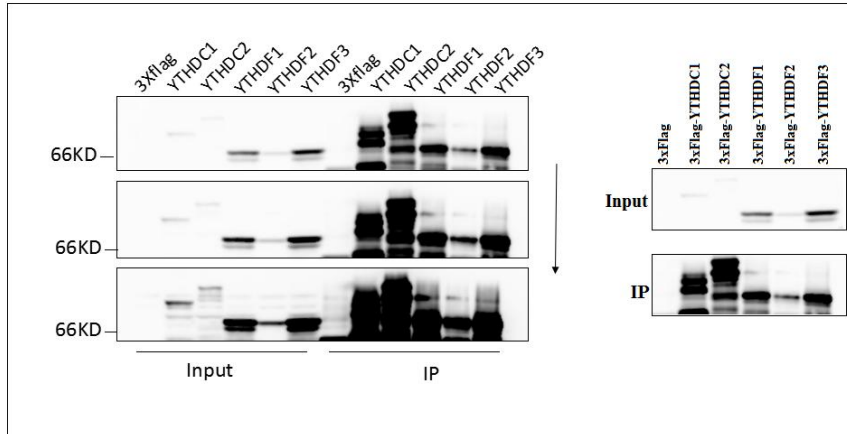


Fig S7. The full-length gels of the Figure7A, western analyses used in the revised manuscript.

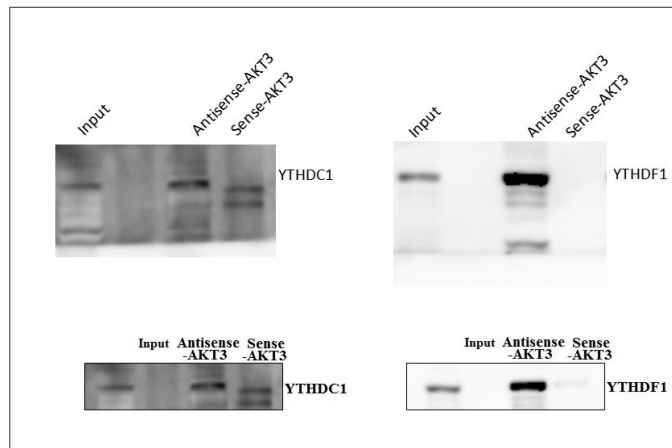


Fig S8. The full-length gels of the Figure7B, western analyses used in the revised manuscript.

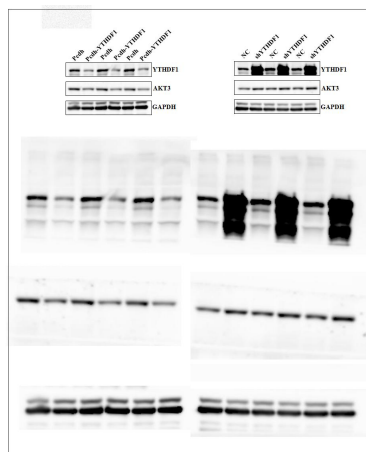
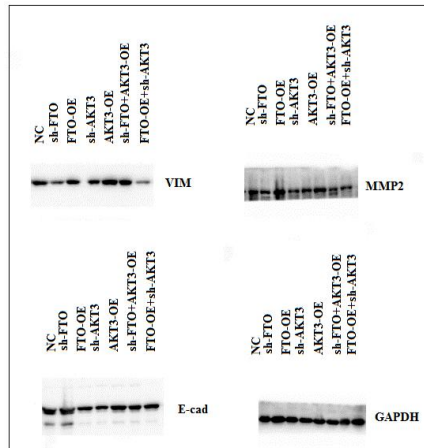


Fig S9. The full-length gels of the Figure7F and 7G, western analyses used in the revised manuscript.



**Fig S10.** The full-length gels of the Figure8D, western analyses used in the revised manuscript.