Supplementary Material

Sensitivity of renal cell carcinoma to cuproptosis: A bioinformatics analysis and experimental verification

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Supplementary tables:

Table S1 Cuproptosis differentially expressed genes of ccRCC in the GES53757

dataset

| Genes (Human)	Gene title	Fold change	P value	Regulation direction
FDX1	Ferredoxin-1	-1.3653	2.41375E-41	down
DLD	Dihydrolipoamide dehydrogenase	-0.8781	8.78061E-27	down
DLAT	Dihydrolipoamide S-acetyltransferase	-0.8640	6.06852E-29	down
PDHA1	Pyruvate dehydrogenase E1 subunit alpha 1	-1.1229	4.4676E-40	down
PDHB	Pyruvate dehydrogenase E1 subunit beta	-1.2590	2.39053E-46	down
GLS	Glutaminase kidney isoform	-1.5625	6.40321E-35	down
CDKN2A	Cyclin-dependent kinase inhibitor 2A	1.3286	4.17763E-30	up

Supplementary figures
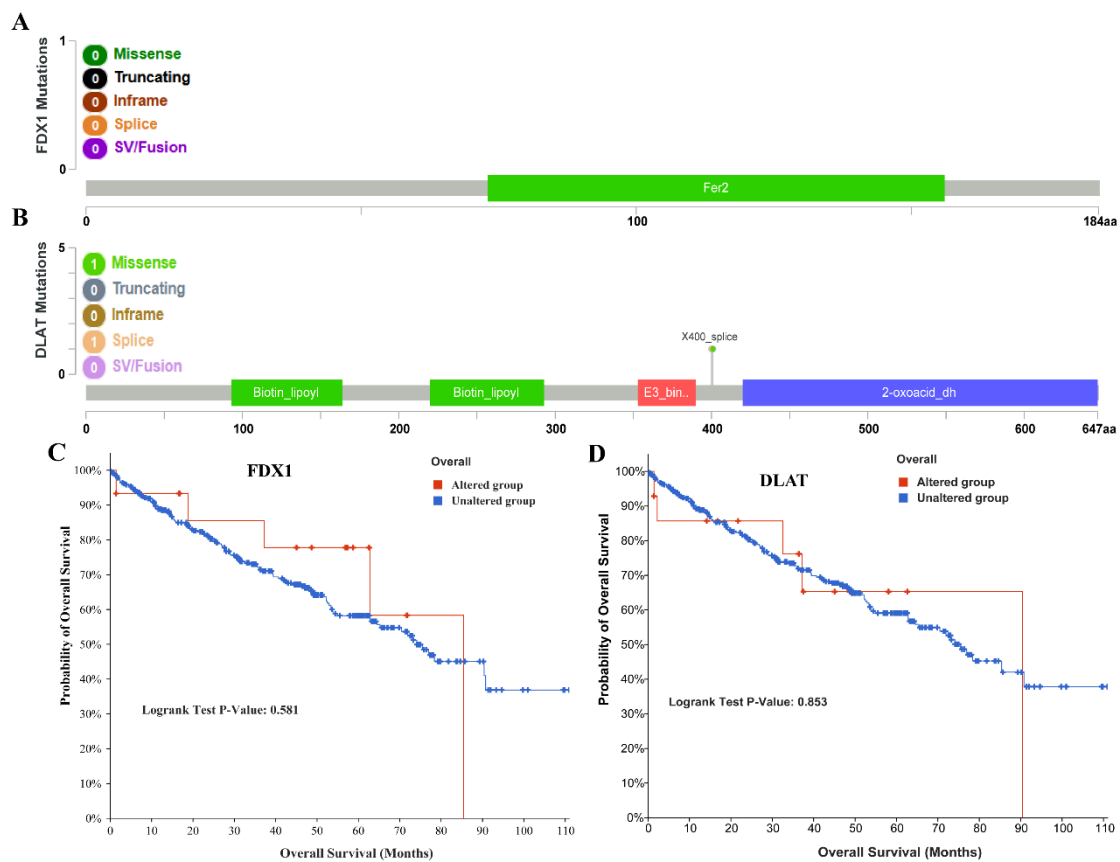
Figure S1: FDX1 and DLAT mutations in ccRCC patients. (A, B) Illustration of FDX1 and DLAT gene mutations in ccRCC by the online cBioPortal tool. (C, D) Overall survival with alterations in FDX1 and DLAT in ccRCC patients.
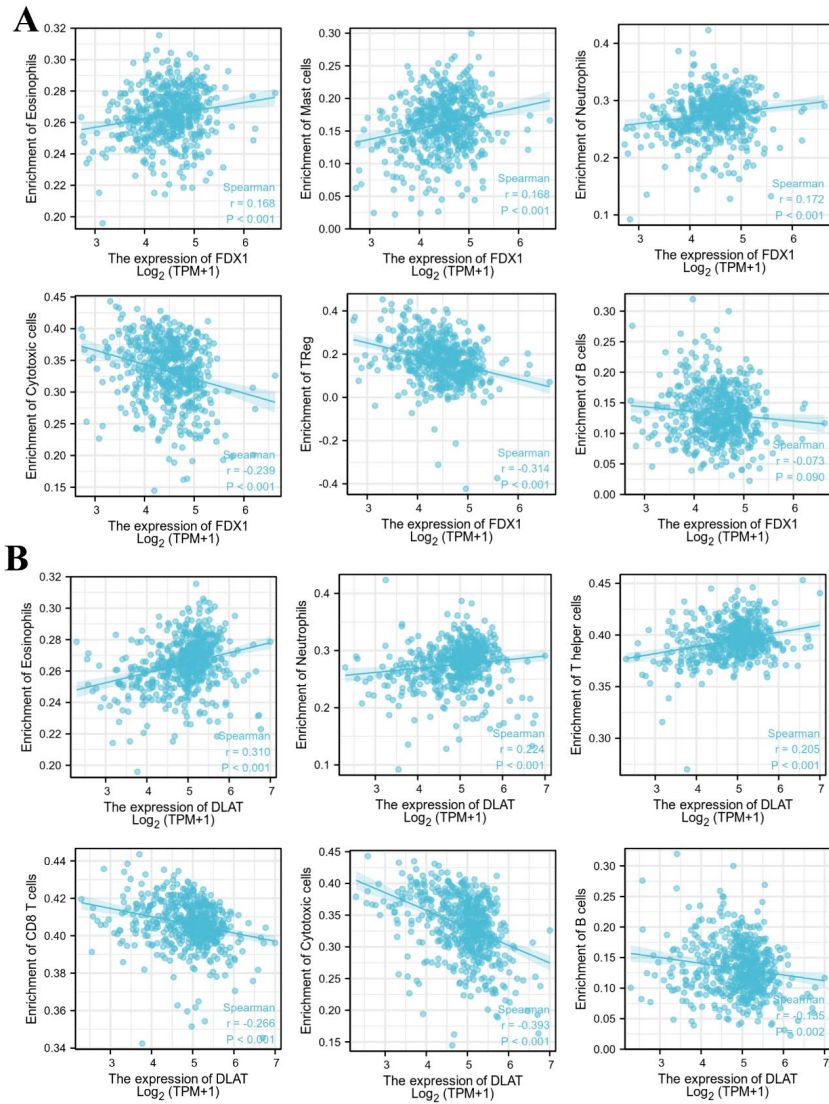
Figure S2: Correlation of FDX1 and DLAT expression with levels of immune cell infiltration. (A) The expression of FDX1 gene was associated with eosinophils, mast cells, neutrophils, cytotoxic cells, Treg and B cells. (B) DLAT expression was related to eosinophils, neutrophils, T helper cells, CD8 T cells, cytotoxic cells and B cells.
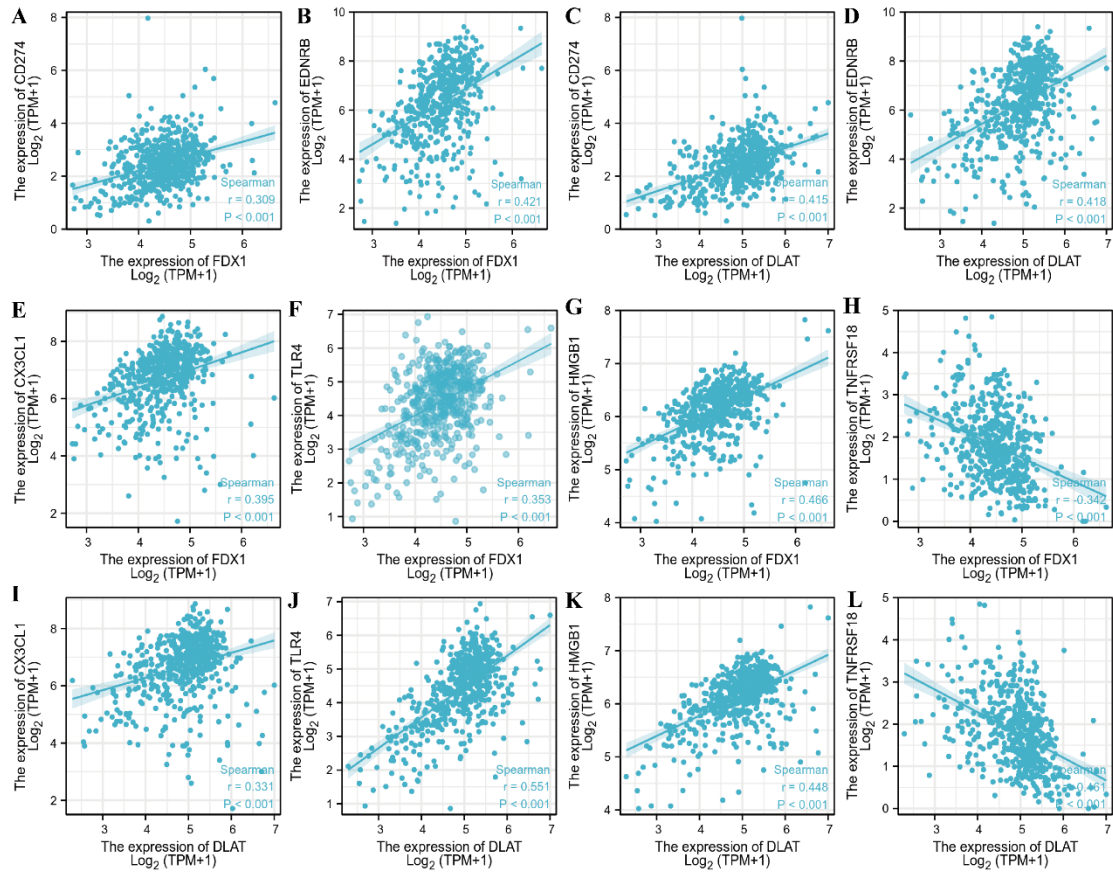
Figure S3: Correlation evaluation of immune checkpoints with the expression of FDX1 and DLAT. (A-D) Both FDX1 and DLAT expressions in ccRCC were positively correlated with the immunosuppressants CD274, and EDNRB. (E-L) FDX1 and DLAT expression in ccRCC were all significantly associated with the immunostimulants CX3CL1, TLR4, HMGB1 and TNFRSF18.