

**Supporting Figure S1. Mass spectrometry library search results.** A and B. Mass spectrometry library search results. A, the matched peptides with LDHA protein sequence is shown in bold red. B, the matched peptides is shown in the peak spectra of mass spectra.

**Supporting Figure S2. Small hairpin RNAs to knock down LNC CRYBG3.** A&B, A549 and H1299 cells were transfected with LNC CRYBG3 shRNA lenti-virus particles for 24 h. The mRNA levels of LNC CRYBG3 in various cell lines were determined *via* qRT-PCR.  $\beta$ -tubulin was used as an internal control. C, LNC CRYBG3 shRNA lenti-virus or LNC CRYBG3 overexpression lenti-virus were transfected in subcutaneous xenotransplanted tumor in nude mice. The mRNA levels of LNC CRYBG3 were determined via qRT-PCR.  $\beta$ -tubulin was used as an internal control. All the experiments were independently repeated three times. The P value was calculated using the Student's t-test. \*,  $p < 0.05$ ; \*\*\*,  $p < 0.01$ .

**Supporting Figure S3. LNC CRYBG3 has little effect on the glucose oxidation metabolism through TCA.** A-J, A549 and H1299 cells were transfected with LNC CRYBG3 shRNA lenti-virus particles or adenovirus particles for LNC CRYBG3 overexpression. The citrate (A and B),  $\alpha$ -ketoglutarate, succinate (C and D), fumarate (E and F) and malate (G and H) levels in various cell lines were determined via GC-MS. All the experiments were independently repeated three times.

A

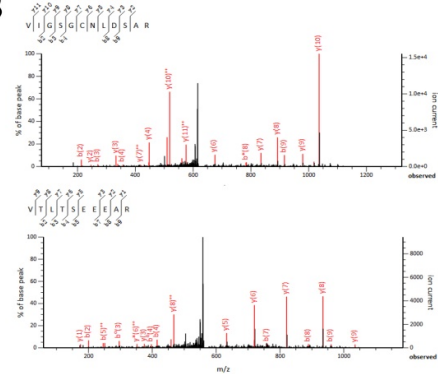
Protein sequence coverage: 6%

Matched peptides shown in **bold red**.

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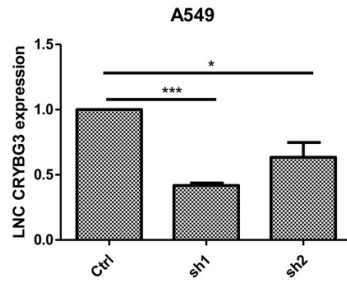
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101  QEGESRLNLV  QRNVNIFKFI  IPNVVKYSPN  CKLLIVSNPV  DILTYVAWKI
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251  AIGLSVADLA  ESIMKNLRV  HPVSTMIRGL  YGIKDDVFLS  VPCILGQNGI
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B

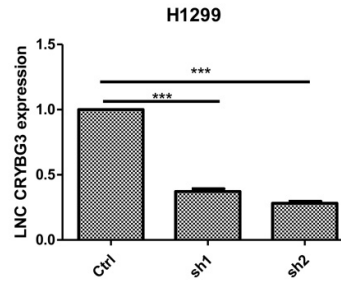


### Supporting Figure S1

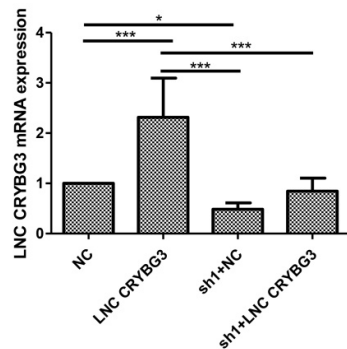
A



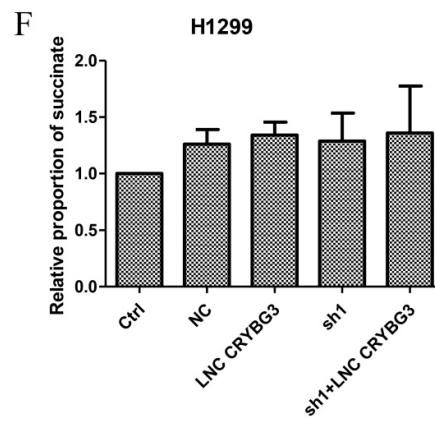
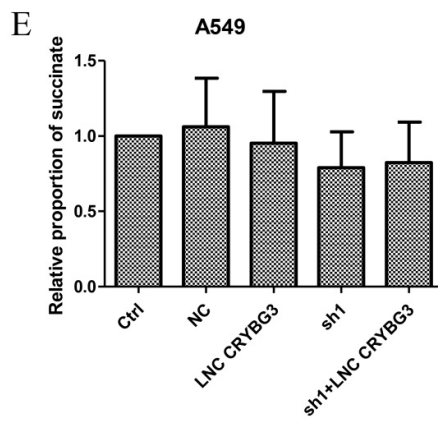
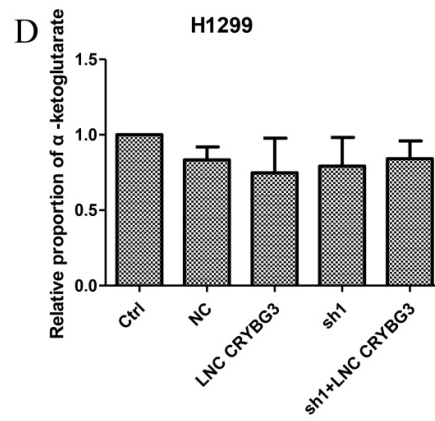
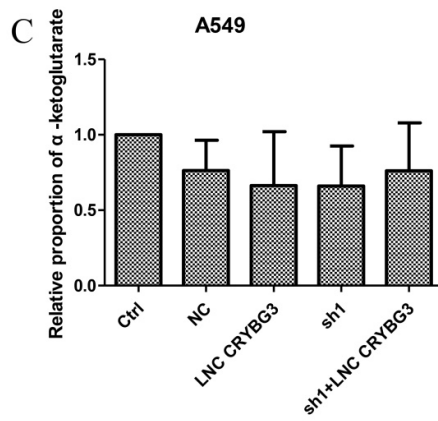
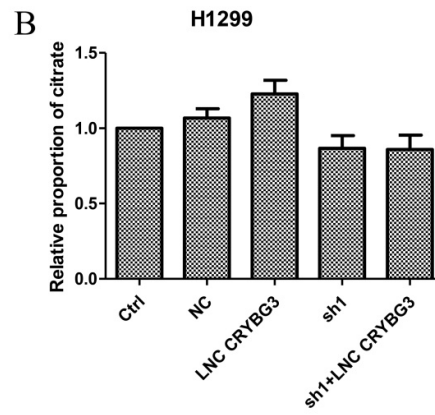
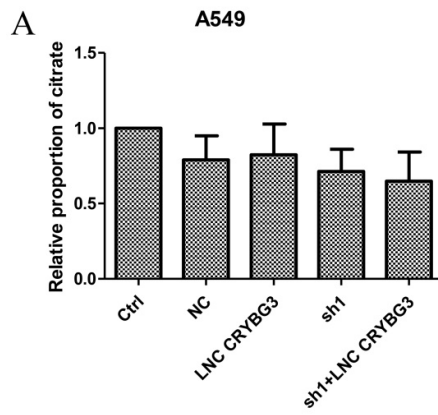
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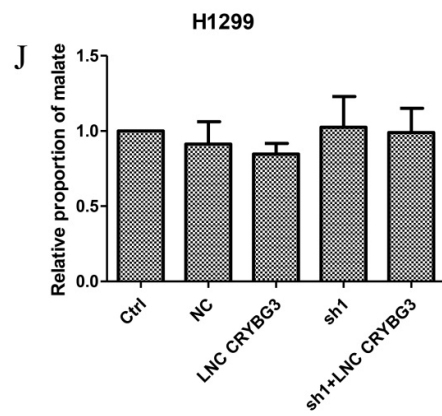
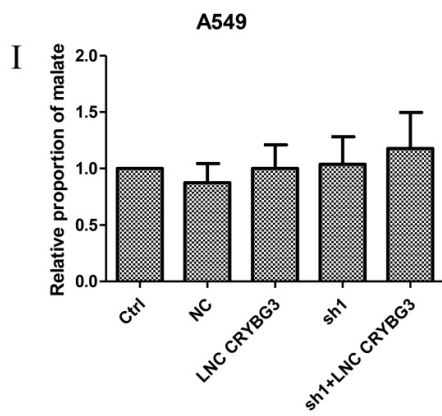
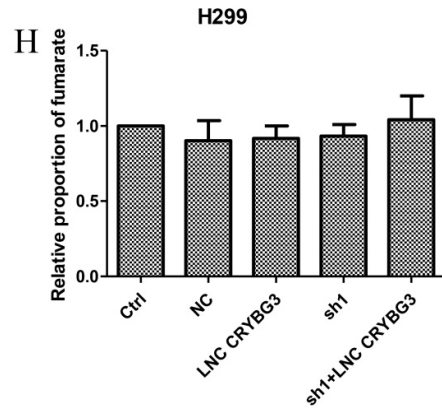
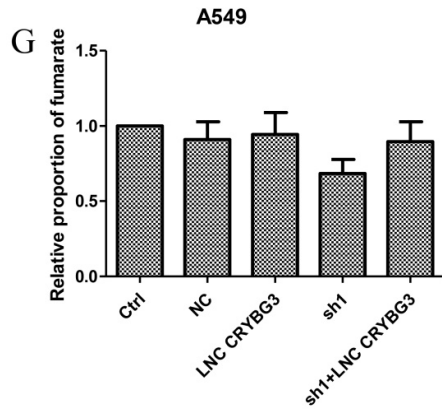
C



### Supporting Figure S2



**Supporting Figure S3**



**Supporting Figure S3**