ERO1α promotes hypoxic tumor progression and is associated with poor prognosis in pancreatic cancer

SUPPLEMENTARY MATERIALS

Supplementary Figure 1: Gene ontology analysis of the proteins downregulated by hypoxic tumor cells in either serum-replete or serum-free conditions.

Supplementary Figure 2: qPCR validation of key hypoxia-induced proteins as identified by pSILAC analysis (expressed as Hx/Nx fold-change in gene expression, n = 3).
Supplementary Figure 3: Western blot of ERO1α expression in TGP47 mouse pancreatic cancer cells; Nx, normoxia; NxSF, normoxia serum-free; Hx, hypoxia; HxSF, hypoxia serum-free.

Supplementary Data 1: Data directly exported from Proteome Discoverer version 2.2 for pSILAC proteomic analysis of pancreatic cancer cell line (MIAPaCa-2) in serum and serum free condition under hypoxia. See Supplementary_Data_1

Supplementary Data 2: Results from bioinformatic data analysis. See Supplementary_Data_2
Supplementary Table 1: Primer sequences for quantitative PCR

| Primer     | 5′–3′                          |
|------------|--------------------------------|
| ERO1α_FW   | ATGACATCAGCCAGTGTGGA            |
| ERO1α_RV   | CATGCTTGGTCCACTGAAGA            |
| NFIL3_FW   | AATGCAGACCGTCAAAAAAGG          |
| NFIL3_RV   | TTGTCTTCCCCACACTCC             |
| HBEGF_FW   | GGTGGTGCTGAAGCTCTTT            |
| HBEGF_RV   | GCTTGTGGCTTGGAGGATAA           |
| VEGFA_FW   | AAGGAGGAGGGCAGAATCAT           |
| VEGFA_RV   | ATCTGCATGGTGATGGTGA            |
| FGF1_FW    | TGCCCTCAGGGAATTACAAG           |
| FGF1_RV    | TATAAAAGCCCGTCGGTGC            |
| ACTIN_FW   | GGACTTCGAGCAAGAGATGG           |
| ACTIN_RV   | AGCAGCTTGTTGGCGTACAG           |
| SLC2A3_FW  | ACCGGCTTCCTCATTACCT            |
| SLC2A3_RV  | AGGCTCGATGTGTTCATCT            |
| ANGPTL4_FW | GCCCTATAGCTGCACTGAC            |
| ANGPTL4_RV | AGTACTGGCCGTTGAGGTG            |
| JUNB_FW    | AATGGAGGACACGGACTTTG           |
| JUNB_RV    | ATGTCTCTGGCATGCCCTACG          |
| FOS_FW     | AGAATCCGAAGGGAAAGGAA           |
| FOS_RV     | CTTCTCTTACGCAAGGGTGG          |
| NDRG1_FW   | ACAACCCGTAGATGGTGAG            |
| NDRG1_RV   | TGTTGGACCACCTCCACGTTA          |
| HK2_FW     | TCTATGCATCCCTGAGGAC           |
| HK2_RV     | TCTCTGCTTCCACTCCACT           |
## Supplementary Table 2: Microarray dataset used for ERO1α expression analysis

| S.NO. | GEO accession | Platform | Sample | Cancer Type         |
|-------|---------------|----------|--------|---------------------|
| 1     | GSE15471      | GPL570   | Whole-tissue pancreatic ductal adenocarcinoma | Pancreatic Cancer |
| 2     | GSE78229      | GPL6244  | Pancreatic tumours tissue | Pancreatic Cancer |
| 3     | GSE67549      | GPL15207 | Cancer cell line | Pancreatic Cancer |
| 4     | GSE28735      | GPL6244  | Pancreatic tissue and adjacent normal tissue | Pancreatic Cancer |

## Supplementary Table 3: ERO1α CRISPR oligo design

| Name                          | Sequence                               |
|-------------------------------|----------------------------------------|
| **Exon 7 CHOP CHOP (No mismatch)** |                                        |
| ERO1Lα_Oligo1_LENTI_guide     | CACCGGAGCGCTACACTGGTATTACAA             |
| ERO1Lα_Oligo2_LENTI_guide     | AAACTTGTAACCAGTGTAGCGCTAC              |
| **Exon 1 CHOP CHOP (3 mismatches)** |                                        |
| Low Efficiency                |                                        |
| ERO1Lα2_Oligo1_LENTI_guide    | CACCGCGCGGCTGGGGATTCTTGTT              |
| ERO1Lα2_Oligo2_LENTI_guide    | AAACAACAGAATCCCAGCCGCGC               |
| **High Efficiency**           |                                        |
| ERO1Lα3_Oligo1_LENTI_guide    | CACCGGCGCGCCGATTTGAGCT                |
| ERO1Lα3_Oligo2_LENTI_guide    | AAACGAGGCTGCAATGGCCCGGCGC             |