

# EGR1 promotes erastin-induced ferroptosis through activating Nrf2-HMOX1 signaling pathway in breast cancer cells

Zhirong Lin<sup>1#</sup>, Zifei Liu<sup>1#</sup>, Zhilong Pan<sup>1</sup>, Yunyi Zhang<sup>1</sup>, Xinyu Yang<sup>1</sup>, Yaxin Feng<sup>1</sup>, Ruihua Zhang<sup>1</sup>, Wenfeng Zeng<sup>1</sup>, Chang Gong<sup>1</sup>, Jianing Chen<sup>1</sup>

1. Breast Tumor Center, Sun Yat-Sen Memorial Hospital, Sun Yat-Sen University, Guangzhou, 510120, China.

Corresponding author: Jianing Chen, E-mail: chenjn335@mail.sysu.edu.cn, Tel: +86-020-34070870; Chang Gong, E-mail: gchang@mail.sysu.edu.cn; Wenfeng Zeng, E-mail: zengwf25@mail.sysu.edu.cn

# Contributed equally.

**Table S1** The sequences of primers for the qRT-PCR analysis

Name	Sequence
EGR1-F	5'-CCACGCCGAACACTGACATT-3'
EGR1-R	5'-GAGGGGTTAGCGAAGGCTG-3'
GAPDH-F	5'-CTGGGCTACACTGAGCACC-3'
GAPDH-R	5'-AAGTGGTCGTTGAGGGCAATG-3'

**Table S2** The sequences of two sense strands of siRNA targeting EGR1.

Name	Sequence
siEGR1#1	sense: 5'-AGAUGAUGCUGCUGAGCAA-3' antisense: 5'-UUGCUCAGCAGCAUCAUCU-3'
siEGR1#2	sense: 5'-GCAGCAGCAGCACCUUCAA-3' antisense: 5'-UUGAAGGUGCUGCUGCUGC-3'

## Abbreviations:

BC: breast cancer; C-AM: calcein-acetoxymethyl ester; EGR1: early growth response 1; EMT: Epithelial-Mesenchymal Transition; GSH: glutathione; GPX4: glutathione peroxidase 4; HMOX1: heme oxygenase 1; LDH: lactate dehydrogenase; LIP: labile iron pool; MDA: malondialdehyde; Nrf2: NFE2 like bZIP transcription factor; qRT-PCR: quantitative real-time polymerase chain reaction; TCGA: the Cancer Genome Atlas; TMRE: tetramethylrhodamine ethyl ester.