**Table S2.** **Experimental reagents that inhibit ferroptosis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Functional Target | Compounds | Test models | Mechanisms/Effects | Refs |
| (ROS from) lipid peroxidation | D-PUFAs | BJeLR, HT-108, G-401 cells | Blocking lipid peroxidation | [[1](#_ENREF_1)] |
| XJB-5-131;  JP4-039 | HT-1080, BJeLR, PANC-1 cells | Preventing mitochondrial lipid oxidation | [[2](#_ENREF_2)] |
| Ferrostatin-1  (Fer-1) | HT-1080, BT474, HT-22, HEK-  293, A375 cells;  OHSCs, MEFs, Oligodendrocytes;  Proximal renal tubular cells;  Human iPSCs-derived neurons; LOXIMVI cells and mice  ICH model mice | Preventing ROS accumulation and lipid peroxidation;  Reversing ferroptosis caused by GPX4 inhibition;  Downregulating COX2 | [[3-8](#_ENREF_3)] |
| SSRS11-92 | HT-1080 cells;  HD brain-slice;  Oligodendrocytes;  Proximal renal tubular cells | Inhibiting lipid peroxidation | [[8](#_ENREF_8)] |
| SRS 16-86 | HT-29, NIH 3T3, HT1080 cells;  I/R model mice | Increasing healthy spinous neurons;  Inhibiting oxidative lipid damage and ferroptosis;  Strong protection against I/R | [[9](#_ENREF_9)] |
| Liproxstatin-1  (Lip-1) | HK-2, HT-22, HEK-293 cells;  MEFs, HRPTEpiCs;  HT-1080, B16 and ID8 xenograft mice;  ALOX15/GPX4 DKO mice;  I/R-induced hepatic damage mice;  Chronic morphine tolerance model mice | Reversing anit-tumor efficacy of ferroptsis inducers;  Reducing iron overload and lipid peroxidation;  Reducing MDA and ROS levels;  Increasing GPX4 level | [[4](#_ENREF_4), [10-12](#_ENREF_10)] |
| A series of synthesized hydroxylated chalcones | SH-SY5Y cells | Inhibiting amyloid-β peptide aggregation;  Inhibiting lipid peroxidation | [[13](#_ENREF_13)] |
| Antioxidants | THNs | HEK-293 cells;  MEFs | Inhibiting lipid peroxidation | [[4](#_ENREF_4)] |
| Butylated hydroxyltoluene  (BHT) | HT1080 cells | Preventing ROS production and cell death | [[5](#_ENREF_5)] |
| Trolox | HT1080, Calu-1, BJeLR cells;  MEFs | Eliminating ROS | [[5](#_ENREF_5)] |
| GIF-0726-r | HT22 cells | Activating ARE;  Inhibiting ROS accumulation and Ca2+ influx | [[14](#_ENREF_14)] |
| Diarylamine;  Phenoxazine;  Phenothiazine | HepG2 cells, MEFs | Inhibiting lipid peroxidation | [[15](#_ENREF_15)] |
| PMC | HEK-293 cells | Inhibiting lipid peroxidation | [[16](#_ENREF_16)] |
| TEMPO | MEFs | Inhibiting lipid peroxidation | [[17](#_ENREF_17)] |
| ALOX | PD146176 | HT-1080, BT474, A375 cells | Preventing RSL3-induced ferroptosis;  Reversing ferroptosis caused by GPX4 inhibition | [[1](#_ENREF_1), [3](#_ENREF_3), [18](#_ENREF_18)] |
| CDC;  AA-861 | HT1080 cells | Rescuing cells from erastin-induced ferroptosis | [[1](#_ENREF_1)] |
| BW A4C | MEFs | Inhibiting lipid peroxidation | [[19](#_ENREF_19)] |
| Iron | 2,2’-dipyridyl | HT1080 cells | Substantial protection from death | [[5](#_ENREF_5)] |
| System xc- | β-mercaptoethanol  (β-ME) | HT1080 cells | Increasing cysteine for GSH synthesis | [[5](#_ENREF_5)] |
| NOX | Diphenylene  Iodonium (DPI);  GKT137831 | HT1080, Calu-1 cells | Inhibiting NOX;  Suppressing erastin-induced ferroptosis | [[5](#_ENREF_5)] |
| Pentose phosphate pathway (PPP) | 6-aminonicotinamde  (6-AN) | HT1080, Calu-1, BJeLR cells | Inhibiting NADPH-generated PPP;  Preventing ROS production and cell death | [[5](#_ENREF_5)] |
| Lysosomes | Ammonium chloride;  Baf A1;  PepA-Me | HT1080, Calu-1 cells | Inhibiting iron accumulation and ROS generation;  Protecting cells from erastin- or RSL3-induced feroptosis | [[20](#_ENREF_20)] |
| GPX | Two new probucol analogues | HT22 cells;  Primary cortical  neurons | Decreasing mitochondrial superoxide and hyperpolarization;  Increasing GPX activity | [[21](#_ENREF_21)] |
| GLS2 | Compound 968 | MEFs;  I/R model mice | An inhibitor of GLS;  Inhibiting LDH release | [[22](#_ENREF_22)] |
| Transaminase | Aminooxyacetic acid (AOA) | HT-1080, BJeLR, HT-22 cells | Blocking the metabolism of glutamine to α-KG for fatty acid synthesis  Rescuing cells from ferroptosis | [[5](#_ENREF_5)] |
| Lipid transporter SCP2 | SCPI-2 | BT474, A375 cells | Inhibiting lipid hydroperoxides;  Reversing ferroptosis caused by GPX4 inhibition | [[3](#_ENREF_3)] |
| PDK1 | GSK2334470 | HT-1080 cells | Reducing iron overload;  Suppressing RSL3-  induced lipid ROS | [[18](#_ENREF_18)] |
| PKC | BisIII | LUHMES cells  Organotypic slices cultures | Counteracting erastin-induced ferroptosis | [[23](#_ENREF_23)] |
| JNK | SP600125 | HD brain-slice;  HL-60 cells | Inhibiting oxidative lipid damage | [[8](#_ENREF_8), [24](#_ENREF_24)] |
| p38 | SB202190 | HL-60 cells | Reducing erastin-induced ferroptosis | [[24](#_ENREF_24)] |
| STAT3 | S3I-201 | PANC-1, CFPAC1 cells | Inhibiting STAT3;  Blocking erastin-induced ferroptosis | [[25](#_ENREF_25)] |
| Selenoproteins | Supplementation with insulin, transferrin, and selenium (ITS) | H295R cells | Increasing GPX4 level and selenoproteins | [[26](#_ENREF_26)] |
| Selenium (Se);  A selenocysteine-containing peptide, Tat SelPep | HT22, HT1080 cells;  Immature and mature primary cortical neuronal cultures;  Collagenase-induced ICH and acute ischemic stroke mice | Increasing selenoproteins;  Inhibiting GPX4-dependent ferroptosis | [[27](#_ENREF_27)] |

D-PUFA, deuterated polyunsaturated fatty acids; OHSCs, organotypic hippocampal slice cultures; MEF, mouse embryonic fibroblast; iPSC, induced pluripotent stem cell; ICH, intracerebral hemorrhage; ROS, reactive oxygen species; GPX4, glutathione peroxidase 4; COX2, cyclooxygenase 2; HD, Huntington’s disease; I/R, ischemia-reperfusion; HRPTEpiC, human renal proximal tubule epithelial cell; ALOX, lipoxygenase; DKO, double-knockout; MDA, malondialdehyde; THN, tetrahydronapthyridinol; ARE, antioxidant response element; PMC, 2,2,7,8-pentamethyl-6-chromanol; TEMPO, 2,2,6,6-tetramethylpiperidin-N-oxyl; RSL3, RAS selective lethal 3; CDC, cinnamyl-3,4-dihydroxya-cyanocinnamate; GSH, glutathione; NOX, nicotinamide adenine dinucleotide phosphate (NADPH) oxidase; PPP, pentose phosphate pathway; GLS, glutaminases; LDH, lactate dehydrogenase; α-KG, alpha-ketoglutarate; PDK1, 3-phosphoinositidedependent kinase 1; PKC, protein kinase C; STAT3, signal transducer and activator of transcription 3.

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