Supplementary Table S1. Drugs described in this paper that exploit GSH to promote cell death.

Experimental Model	Tumor Types	Cell Lines	Drugs or Reagents	Effect on GSH	Mechanism Related to GSH	Reference
4T1 tumor-bearing mice	Breast cancer	4T1, MCF-7, ADR, L02	LPOgener (FAC + Phosphatidylcholine)	GSH oxidation coupled to Fe^{3+} reduction.	GSH-responsive metal reduction triggers lipid peroxidation for ferroptosis.	191
Murine orthotopic breast cancer model	Breast cancer	4T1, HC11	VTPA (MnO_2-spiked organosilica)	GSH oxidation coupled to high-valence Mn reduction; cleaves disulfide bonds.	GSH-responsive degradation releases Mn and Fe, generating ROS storm and activating NLRP3 inflammasome for pyroptosis.	186
4T1 tumor-bearing BALB/c mice	Breast cancer	4T1, A549, U87	TPEN-loaded disulfide-linked poly(acrylic acid) shell	Cleaves disulfide shell; GSH oxidation coupled to Cu^{2+} reduction.	GSH-responsive degradation releases TPEN, and GSH contributes to TPEN-$Cu2^{+}$ to TPEN-Cu^{+} reduction, inducing Fenton-like reaction and following cell death.	185
4T1 xenograft model	Breast cancer	4T1	PNM (GSH-activatable prodrug nanomicelles)	GSH-responsive crosslinker activation	GSH-responsive disassembly releases prodrugs, triggering GSDME-mediated pyroptosis.	220
Athymic mice bearing 5637 tumors	Bladder cancer	5637, MCF-7, MCF-10A, SV-HUC-1	GOx@[Cu(tz)] (glucose oxidase (GOx)-engineered nonporous Cu^{+} 1,2,4-triazolate coordination polymer nanoplatform)	Consumes ~80% of GSH via a coordination reaction; GSH-responsive biodegradation of GOx@[Cu(tz)].	GSH-responsive degradation releases Cu^{+} for cuproptosis (DLAT aggregation) and activates GOx for starvation therapy.	216
Orthotopic glioblastoma model	Glioblastoma	U87, U251	HFn-Cu-REGO (heavy-ferritin-Cu^{2+}-regorafenib) nanoplatform	Decreases GSH and increases GSSG/GSH ratio; GSH oxidation coupled to Cu^{2+} reduction.	GSH-responsive degradation releases Cu^{2+}, GSH-mediated reduction generates Cu^{+}, and GSH depletion impairs GPX4 pathway, causing lipid peroxidation-mediated ferroptosis and cuproptosis.	221
H22 tumor-bearing mice	Hepatocellular carcinoma	HepG2, H22	Au nanoclusters-Cu^{2+}@SA-HA platform (nanoclusters with Cu^{2+} an in situ cross-linking composite gel of sodium alginate /hyaluronic acid)	GSH oxidation coupled to Cu^{2+} reduction.	GSH contributes to Cu^{2+} to Cu^{+} reduction; and depletes GSH enabling ROS-mediated cell death and cuproptosis.	194
4T1 tumor-bearing BALB/c mice	Breast cancer	4T1, CT26	Cu-TBB (Copper-Bacteriochlorin)	GSH-mediated nanosheet disassembly; GSH oxidation coupled to Cu^{2+} reduction.	GSH-responsive degradation releases Cu^{2+} and GSH-mediated reduction generates Cu^{+}, generating •OH and O_2•$^{-}$for GSDMD-mediated pyroptosis.	222
A549 xenograft model	Lung cancer	A549, LLC	$Na_2S_2O_8$ liquid nanoparticles	Cleaves disulfide bonds for activation.	GSH-responsive disassembly releases persulfate to generate •SO_4^{-}/•OH radicals, inducing ferroptosis and pyroptosis.	219
Pancreatic cancer mouse model	Pancreatic cancer	Miapaca-2, Pan02, Panc-1	Pt-In NP (PHDT-Pt-In polymer)	Cleaves disulfide bonds and reduces Pt^{4+} to Pt^{2+}.	GSH-responsive degradation releases Pt^{4+} and GSH-mediated reduction generates Pt^{2+}, amplifying CASP3/GSDME-mediated pyroptosis.	218
4T1 tumor-bearing BALB/c mice	Breast cancer	4T1	GOx + Cu-based yolk-shell nanoplatform	GSH oxidation coupled to Cu^{2+} reduction.	GSH contributes to Cu^{2+} to Cu^{+} reduction, causing DLAT aggregation-meidated cuproptosis and amplifying ROS-mediated pyroptosis.	187

Experimental Model	Tumor Types	Cell Lines	Drugs or Reagents	Effect on GSH	Mechanism Related to GSH	Reference
Human NSCLC xenografts	Non-small cell lung cancer	H1299, H2009, PC9, A549	Cysteine starvation	CHAC1 catabolizes GSH to mobilize cysteine.	GSH-derived cysteine sustains mitochondrial Fe-S cluster synthesis, which potentiates lipid peroxidation for ferroptosis.	210
4T1 and CT26 tumor models	Breast and colorectal cancer	4T1, CT26	Platelet membrane-coated nanosystem and radiotherapy	GSH oxidation coupled to Cu^{2+} reduction.	GSH contributes to Cu^{2+} to Cu^{+} reduction, causing DLAT aggregation and cuproptosis.	193
HeLa tumor-bearing nude mice	Cervical carcinoma	HeLa, A549, MCF-7	tumor microenvironment-responsive photosensitizer (BODIPY)	GSH replaces nitrophenol via S_NAr reaction.	High GSH-triggered chemical transformation from OFF to ON state triggers ROS generation, inducing CASP1/GSDMD-mediated pyroptosis.	223
CT26 tumor-bearing BALB/c mice	Colorectal cancer	CT26, L02	F127-MOF-199 NPs	Depletes GSH in TME; GSH oxidation coupled to Cu^{2+} reduction.	GSH-responsive degradation releases Cu^{2+} and GSH contributes to Cu^{2+} to Cu^{+} reduction, inducing pyroptosis and cuproptosis	189
4T1 tumor-bearing BALB/c mice	Breast cancer	4T1	Cu-NC@PEG (DSPE-PEG2000modified copper-nitrogen-doped carbon-based photocatalysts)	GSH-dependent radical generation.	GSH-mediated Cu redox promotes ROS and cuproptosis coupled with pyroptosis (CASP1/IL-1β).	188
Hepa1-6 tumor-bearing C57BL/6J mice	Hepatocellular carcinoma	Hepa1-6, NIH-3T3	D@LADFe (encapsulating doxorubicin and coordinating Fe^{3+} into chimeric peptide nanoparticles)	GSH oxidation coupled to Fe^{3+} reduction.	GSH-mediated reduction generates Fe^{2+}, causing Fenton reactions and driving ferroptosis.	190
4T1 tumor-bearing BALB/c mice	Triple negative breast cancer	MDA-MB-231, MCF-7, 4T1, A549	Cu^{2+} dipyridophenazine complex	Degrades and depletes GSH.	GSH contributes to Cu^{2+} to Cu^{+} reduction, triggering ROS storm, causing cuproptosis and apoptosis.	184
CT26/4T1 tumor-bearing BALB/c mice	Colon and breast cancer	CT26, 4T1	Es@CuTCPP (Elesclomol-loaded Cu-nanosheets)	GSH oxidation coupled to Cu^{2+} reduction.	GSH contributes to TCPP-$Cu2^{+}$ to TCPP-Cu^{+} reduction, leading to ROS-dependent cell death and cuproptosis.	192