SUPPLEMENTARY TABLES FOR ARTICLE:

Redox Status of Erythrocytes as an Important Factor in Eryptosis and Erythronecroptosis

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Table S1. Contribution of ROS and oxidative stress to eryptosis

Factor/condition and its description	ROS and LPO involvement	Antioxidant defense	Mechanisms of eryptosis	Reference
Aluminium ions	NA	Unaffected GSH	Ca^{2+}-dependent, ceramide-independent eryptosis	(Niemoeller et al., 2006)
Methylglyoxal, a diabetes- and hyperglycemia-associated metabolite	NA	GSH ↓; unaffected GSSG	Ca^{2+}-independent eryptosis	(Nicolay et al., 2006)
Anandamide, an apoptosis-inducing endocannabinoid	ROS ↑; ROS scavengers inhibited eryptosis	NA	Ca^{2+}-and PGE-dependent eryptosis	(Bentzen and Lang, 2007)
TTNPB, a retinoic acid receptor agonist and retinoic acid	NA	Unaffected GSH	Ca^{2+}-dependent, caspases- and calpain-independent eryptosis	(Niemoeller et al., 2008)
Selenite (SeO_3^{2-}) or selenate (SeO_4^{2-})	NA	Unaffected GSH and GSSG	Ca^{2+}-and ceramide-dependent eryptosis	(Sopjani et al., 2008)
Methyldopa, an antihypertensive drug	ROS ↑; ROS scavengers inhibited eryptosis	GSH/GSSG ratio ↓	Ceramide-dependent, Ca^{2+}-independent eryptosis	(Mahmud et al., 2008)
Individuals chronically exposed to arsenic	MDA ↑; protein carbonylation ↑	GSH ↓	Not available	(Biswas et al., 2008)
Dimethylfumarate, a glutathione-targeting agent	NA; ROS scavengers inhibited eryptosis	GSH ↓	Ca^{2+}-dependent eryptosis	(Ghashghaeinia et al., 2010)

Type 2 diabetes mellitus with and without chronic kidney failure (in vivo)	TBARs ↑	GSH/GSSG ratio ↓	Not available	(Calderón-Salinas et al., 2011)
Bay 11-7082 and parthenolide, NFκB pathway inhibitors	NA; ROS scavengers inhibited eryptosis	GSH ↓	Ca^{2+}-dependent eryptosis	(Ghashghaeinia et al., 2011)
Erythrocyte aging	NA; ROS scavengers inhibited eryptosis	Unaffected GSH	Ca^{2+}-dependent eryptosis	(Ghashghaeinia et al., 2012)
Cetyltrimethyl ammonium bromide- or polyethylene glycol-coated gold nanorods	Unaffected ROS	GSH ↓	Ca^{2+}-dependent, caspase-3-independent eryptosis	(Lau et al., 2012)
Sorafenib, a polytyrosine kinase inhibitor	ROS ↑; ROS scavengers inhibited eryptosis	NA	Ca^{2+}-dependent, p38 MAPK-, caspase-3- and PKC-independent eryptosis	(Lupescu et al., 2012)
Aluminium chloride ($AlCl_3$)	ROS ↑; ROS scavengers inhibited eryptosis	GSH ↓	Ca^{2+}-dependent eryptosis	(Vota et al., 2012)
Hydrogen peroxide-mediated oxidative stress	ROS ↑	NA	Ca^{2+}- and caspase-3-dependent eryptosis	(Qian et al., 2012)
Withaferin A, an anti-cancer triterpenoid	ROS ↑; ROS scavengers inhibited eryptosis	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Jilani et al., 2013)
Diabetic patients (in vivo)	NA	GSH ↓	Caspase-3-mediated eryptosis	(Maellaro et al., 2013)
Sodium nitrite + hydrogen peroxide	ROS ↑	GSH ↓	Ca^{2+}-dependent eryptosis	(Vota et al., 2013)
Lead-exposed workers (in vivo)	TBARs ↑	GSH ↓	Ca^{2+}- and calpain-dependent eryptosis	(Aguilar-Dorado et al., 2014)
Oxysterol (stimulation of hypercholesterolemia)	ROS ↑; hydroperoxides ↑	GSH ↓	Ca^{2+}-, caspases, PGE- and PKC-dependent eryptosis	(Tesoriere et al., 2014)
Mitoxantrone, a cytotoxic anti-cancer drug	ROS ↑; ROS scavengers inhibited eryptosis	NA	Ceramide-dependent, Ca^{2+}- and p38 MAPK-independent eryptosis	(Arnold et al., 2014)

Patients with end-stage renal disease (in vivo)	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Abed et al., 2014)
Alantolactone, a plant-based anti-cancer agent	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Alzoubi et al., 2014b)
Artesunate, an anti-malarial and anti-cancer drug	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Alzoubi et al., 2014a)
Piperlongumine, a plant-based anti-cancer agent	ROS ↑	NA	Ceramide-dependent, Ca^{2+}-independent eryptosis	(Bissinger et al., 2014b)
Salinomycin, a polyether ionophore antibiotic	ROS ↑; ROS scavengers inhibited eryptosis	NA	Ca^{2+}-dependent eryptosis	(Bissinger et al., 2014a)
Mitotane, a cytostatic drug used for the treatment of adrenocortical carcinomas	ROS scavengers did not inhibit eryptosis	NA	Ca^{2+}-dependent, caspases-independent eryptosis	(Jacobi et al., 2014)
Potassium dichromate, i.e. Cr^{6+}	ROS ↑; ROS scavengers inhibited eryptosis	NA	Ca^{2+}-dependent eryptosis	(Zhang et al., 2014)
Naphthazarin, an anti-cancer agent	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Aljanadi et al., 2015)
Auranofin, an anti-inflammatory, antimicrobial and anti-cancer drug	ROS ↑; ROS scavengers inhibited eryptosis	NA	Ca^{2+}- and p38 MAPK-independent eryptosis	(Alzoubi et al., 2015a)
Cantharidin, a phosphoprotein phosphatase inhibitor	Unaffected ROS	NA	Ca^{2+}-, p38 MAPK- and PKC-dependent, ceramide-independent eryptosis	(Alzoubi et al., 2015b)
Acute cardiac failure (in vivo)	ROS ↑	NA	Ca^{2+}- and ceramide-independent eryptosis	(Attanasio et al., 2015)
Mefloquine, an antimalarial drug	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Bissinger et al., 2015a)
Topotecan, a topoisomerase I inhibitor	Unaffected ROS	NA	Ceramide-dependent, caspase-3-independent eryptosis	(Bissinger et al., 2015b)
Lopinavir, an anti-HIV drug	ROS ↑	GSH ↓	Ca^{2+}-dependent and ceramide-independent eryptosis	(Bissinger et al., 2015c)
Nelfinavir, an anti-HIV agent	ROS ↑;	NA	Ca^{2+}-dependent eryptosis	(Bissinger et al., 2015d)

	ROS scavengers inhibited eryptosis			
Embelin, a phytochemical agent with anti-cancer potential	Unaffected ROS	NA	Ceramide-dependent, Ca^{2+}-, p38 MAPK- and PKC- independent eryptosis	(Bouguerra et al., 2015a)
Zopolrestat, an aldose reductase inhibitor	Unaffected ROS	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Bouguerra et al., 2015b)
Fucoxanthin, an anti-cancer carotenoid	Unaffected ROS; LPO ↑	NA	Ca^{2+}-dependent, p38 MAPK- and PKC-independent eryptosis	(Briglia et al., 2015a)
Zosuquidar, a P-glycoprotein inhibitor	Unaffected ROS	NA	Ca^{2+}-, p38 MAPK- and PKC-dependent eryptosis	(Briglia et al., 2015b)
Edelfosine, an anti-inflammatory, anti-autoimmune, antiparasitic, and anti-viral agent	Unaffected ROS	NA	Ca^{2+}-dependent eryptosis	(Briglia et al., 2015d)
Ruxolitinib, a JAK1/JAK2 tyrosine kinase inhibitor	Unaffected ROS	NA	p38 MAPK-dependent and Ca^{2+}-independent eryptosis	(Briglia et al., 2015c)
Boswellic acid, an immunomodulator	Unaffected ROS	NA	p38 MAPK-dependent, Ca^{2+}- and ceramide-independent eryptosis	(Calabrò et al., 2015b)
Ellipticine, an anti-cancer alkaloid	ROS ↑	NA	Ceramide-dependent, Ca^{2+}-independent eryptosis	(Calabrò et al., 2015a)
PRIMA-1, an anti-cancer drug	ROS ↑	NA	Ceramide-dependent, caspase-3- and Ca^{2+}-independent eryptosis	(Faggio et al., 2015)
Garcinol, an anti-cancer agent	ROS ↑; ROS scavengers did not inhibit eryptosis	NA	Ca^{2+}-dependent eryptosis	(Fazio et al., 2015)
Elderly people (in vivo)	ROS ↑	GSH ↓	Ca^{2+}- and ceramide-independent eryptosis	(Lupescu et al., 2015)
Gramicidin, an antibiotic	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Malik et al., 2015)
Treosulfan, an anti-cancer agent	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Peter et al., 2015)
Clofazimine, an antibacterial agent	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Officioso et al., 2015a)

Triparanol, a cholesterol synthesis inhibitor	ROS ↑	GSH ↓	Ca^{2+}-dependent eryptosis	(Officioso et al., 2015b)
Fe_3O_4 magnetic nanoparticles	ROS ↑; ROS scavengers inhibited eryptosis	NA	Ca^{2+}-dependent eryptosis	(Ran et al., 2015)
Carnosic acid	ROS ↓	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Stockinger et al., 2015)
Uremic serum	ROS ↑	GSH ↓	Not available	(Sun et al., 2015)
Oxysterol (stimulation of hypercholesterolemia)	ROS ↑	GSH ↓	Ca^{2+}- and PGE-dependent eryptosis	(Tesoriere et al., 2015)
High glucose levels (*in vitro*)	ROS ↓; LPO ↑	NA	Ca^{2+}-dependent eryptosis	(Viskupicova et al., 2015)
Saquinavir, an anti-HIV agent	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Waibel et al., 2015)
Lapatinib, a human epidermal growth factor receptor tyrosine kinase inhibitor	Unaffected ROS	NA	Ca^{2+}- and ceramide-independent eryptosis	(Zierle et al., 2015)
Bexarotene, a retinoid X receptor agonist	ROS ↑	NA	Ca^{2+}- and CK1α-dependent, caspase-3-, ceramide-, p38 MAPK- and PKC-independent eryptosis	(Al Mamun Bhuyan et al., 2016a)
Ceritinib, an anaplastic lymphoma kinase inhibitor	Unaffected ROS	NA	Ca^{2+}-, CK1α-, caspases-, p38 MAPK- and PKC-dependent, ceramide-independent eryptosis	(Al Mamun Bhuyan et al., 2016d)
Psammaplin A, an anti-cancer agent	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Al Mamun Bhuyan et al., 2016e)
Dolutegravir, an anti-HIV agent	ROS ↑	NA	Ca^{2+}- and ceramide-dependent, caspase-3-, CK1α-, p38 MAPK- and PKC-independent eryptosis	(Al Mamun Bhuyan et al., 2016c)
Tafenoquine, an antimalarial drug	ROS ↑	NA	Ca^{2+}- and CK1α-dependent, caspase-3-, ceramide-, p38 MAPK- and PKC-independent eryptosis	(Al Mamun Bhuyan et al., 2016b)

Elvitegravir, an anti-HIV drug	Unaffected ROS	NA	Ca^{2+}-dependent, caspase-3-, ceramide-and p38 MAPK-independent eryptosis	(Bissinger et al., 2016a)
Uremic patients under hemodialysis or peritoneal dialysis (in vivo)	ROS ↑	NA	Ceramide-dependent and Ca^{2+}-independent eryptosis	(Bissinger et al., 2016b)
Patients with arteritis (in vivo)	ROS ↑	NA	Ca^{2+}-dependent and ceramide-independent eryptosis	(Bissinger et al., 2016c)
Nigericin, an antibiotic ionophore	ROS ↑	NA	Ca^{2+}-dependent and ceramide-independent eryptosis	(Bissinger et al., 2016d)
Lung cancer patients (in vivo)	Unaffected ROS	NA	Ca^{2+}- and ceramide-independent eryptosis	(Bissinger et al., 2016e)
Bay 11–7082, parthenolide and dimethyl fumarate as anti-inflammatory agents and glucose-6-phosphate dehydrogenase inhibitors	NA	GSH ↓; glutathione reductase ↓	Not available	(Ghashghaeinia et al., 2016)
NSC-95397, a CDC25B inhibitor	ROS ↑	NA	Ca^{2+}-, ceramide- and PKC-dependent, CK1α-, caspase-3- and p38 MAPK-independent eryptosis	(Jemaà et al., 2016)
Patients with systemic lupus erythematosus (in vivo)	ROS ↑	NA	Ca^{2+}-dependent and ceramide-independent eryptosis	(Jiang et al., 2016)
Quinine, an antimalarial drug	ROS ↑	NA	Ca^{2+}-, ceramide- and CK1α-dependent eryptosis	(Mischitelli et al., 2016b)
Emodin, a Chinese herbal quinone	ROS ↑; ROS scavengers did not inhibit eryptosis	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Mischitelli et al., 2016c)
Fascaplysin, an anti-cancer agent	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Mischitelli et al., 2016d)
Diosgenin, an anti-cancer steroid sapogenin	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Mischitelli et al., 2016a)
Mercury as mercuric chloride ($HgCl_2$)	Unaffected ROS	GSH ↓	Ca^{2+}-dependent eryptosis	(Officioso et al., 2016a)
Bromfenvinphos, a pesticide	ROS ↑	NA	Ca^{2+}-dependent and ceramide-independent eryptosis	(Officioso et al., 2016b)

Caspofungin, an anti-fungal agent	Unaffected ROS; ROS scavengers did not inhibit eryptosis	NA	CK1α-dependent, Ca^{2+}-, caspase-3-, ceramide-, p38 MAPK- and PKC-independent eryptosis	(Peter et al., 2016a)
Anidulafungin, an anti-fungal agent	ROS ↓; ROS scavengers did not inhibit eryptosis	NA	Ca^{2+}- and p38 MAPK-dependent, caspase-3-, ceramide-, CK1α- and PKC-independent eryptosis	(Peter et al., 2016b)
Micafungin, an anti-fungal agent	ROS ↓; ROS scavengers did not inhibit eryptosis	NA	Ca^{2+}-, caspase-3-, ceramide-, CK1α-, p38 MAPK- and PKC-independent eryptosis	(Peter et al., 2016c)
Pyocyanin, a *Pseudomonas aeruginosa* virulence factor	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Qadri et al., 2016)
Combretastatin A4 phosphate disodium (CA4P), an anti-cancer agent	ROS ↓	GSH ↓	Ca^{2+}-dependent and ceramide-independent eryptosis	(Signoretto et al., 2016a)
Terfenadine, an antihistaminic drug	Unaffected ROS	NA	Ca^{2+}-dependent and ceramide-independent eryptosis	(Signoretto et al., 2016b)
Piceatannol, an analog and metabolite of resveratrol	ROS ↑	NA	Ceramide-dependent and Ca^{2+}-independent eryptosis	(Signoretto et al., 2016c)
Nocodazole, a microtubule assembly inhibitor	ROS ↑	NA	Ca^{2+}-, and ceramide-dependent, caspase-3-independent eryptosis	(Signoretto et al., 2016d)
Sclareol, an anti-HIV drug	Unaffected ROS	NA	Ca^{2+}-, CK1α- and p38 MAPK-dependent, ceramide-independent eryptosis	(Signoretto et al., 2016e)
Ceranib 2, an anti-cancer agent that inhibits acid ceraminidase	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Signoretto et al., 2016f)
Pazopanib, a multikinase inhibitor	ROS ↑	NA	Ceramide-dependent eryptosis	(Signoretto et al., 2016g)
Ritonavir, an anti-viral drug	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Waibel et al., 2016)
Self-assembled nanofibers	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Xu et al., 2016)
Regorafenib, a multikinase inhibitor	Unaffected ROS	NA	Ca^{2+}-, ceramide-, PKC- and p38 MAPK-independent eryptosis	(Zierle et al., 2016)

Exemestane, a steroidal aromatase inactivator and anti-breast cancer drug	ROS ↑; ROS scavengers did not inhibit eryptosis	NA	Ca^{2+}- and ceramide-dependent, caspase-3-, CK1α- and p38 MAPK-independent eryptosis	(Al Mamun Bhuyan et al., 2017a)
Temsirolimus, a mammalian target of rapamycin (mTOR) inhibitor	ROS ↑	NA	Ca^{2+}-, ceramide and PKC-dependent, caspase-3-, CK1α- and p38 MAPK-independent eryptosis	(Al Mamun Bhuyan et al., 2017b)
Bacterial lipopeptides	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Al Mamun Bhuyan et al., 2017c)
Simvastatin, a cholesterol-reducing drug	ROS ↑	NA	Ca^{2+}- and p38 MAPK-dependent eryptosis	(Al Mamun Bhuyan et al., 2017d)
Gefitinib, an epidermal growth factor receptor-tyrosine kinase inhibitor	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Al Mamun Bhuyan et al., 2017e)
Camalexin, an anti-cancer agent	Unaffected ROS	NA	Ca^{2+}-, caspase-8- and PKC-dependent, caspase-3-, ceramide-, CK1α- and p38 MAPK-independent eryptosis	(Almasry et al., 2017)
Perifosine, an anti-cancer drug	ROS ↓	NA	PKC-dependent, ceramide- and p38 MAPK-independent eryptosis	(Egler and Lang, 2017)
Apigenin, a pleiotropic flavone extracted from plants	ROS ↑	NA	Not available	(Fallatah and Georges, 2017)
High glucose	ROS ↑	SOD ↓; glutathione reductase ↓, glutathione peroxidase ↓; catalase ↓; GSH ↓	Ca^{2+}- and calpain-dependent eryptosis	(Jagadish et al., 2017)
Chronic hemodialysis patients (in vivo)	Unaffected ROS	NA	Not available	(Meyring-Wösten et al., 2017)
Adarotene, a carotenoid anti-cancer agent	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Mischitelli et al., 2017)
Pathogen reduction treatment using riboflavin and ultraviolet light illumination (Mirasol)	ROS ↑	Unaffected GSH	Ca^{2+}-, ceramide and calpain-dependent, p38 MAPK-independent eryptosis	(Qadri et al., 2017)

Afatinib, an anti-cancer epidermal growth factor receptor tyrosine kinase inhibitor	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Al Mamun Bhuyan and Lang, 2018)
β-Cryptoxanthin, a carotenoid	Unaffected ROS	Unaffected GSH	Ca^{2+}-independent eryptosis	(Alvarez-Sala et al., 2018)
Dasatinib, a new anti-cancer tyrosine kinase inhibitor	ROS ↑	NA	Ca^{2+}- and caspase-3-dependent eryptosis	(Chan et al., 2018)
Indoxyl sulfate, a uremic toxin	ROS ↑	Unaffected GSH	Not available	(Dias et al., 2018)
Selenium-containing zidovudine derivatives	TBARs ↑	NA	Not available	(Ecker et al., 2018)
Polyvinylpyrrolidone and citrate coated silver nanoparticles	MDA ↑	GSH ↓	Ca^{2+}- and calpain-dependent, caspase-3-independent eryptosis	(Ferdous et al., 2018)
Costunolide, an anti-inflammatory and anti-cancer agent	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Fink et al., 2018a)
Taurolidine, an anti-cancer taurine derivative	Unaffected ROS	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Fink et al., 2018b)
Patients with diabetes mellitus type 2 (in vivo)	ROS ↑	NA	Ca^{2+}-dependent and ceramide-independent eryptosis	(Kempe-Teufel et al., 2018)
Hypertensive and/or dyslipidemic patients (in vivo)	TBARs ↑	GSH ↓	Ca^{2+}-dependent eryptosis	(Pinzón-Díaz et al., 2018)
Clostridium perfringens-derived neuraminidase	Unaffected ROS	NA	Ca^{2+}-dependent and ceramide-independent eryptosis	(Qadri et al., 2018)
Para-tertiary butylcatechol, an industrial pollutant	ROS ↑	GSH ↓	Ca^{2+}- and calpain-dependent eryptosis	(Vishalakshi et al., 2018)
N,N-Diethyl-3-methylbenzamide (DEET), the most widely used insect repellent	Unaffected ROS	NA	Ca^{2+}-dependent, caspase-3-, PKC-, CK1α- and p38 MAPK-independent eryptosis	(Alfhili et al., 2019a)
Triclosan, a broad-spectrum antimicrobial agent	Unaffected ROS	NA	Ca^{2+}- and p38 MAPK-dependent, caspase-3-, PKC- and CK1α-independent eryptosis	(Alfhili et al., 2019b)
Male smokers (in vivo)	NA	GSH ↓	Not available	(Attanzio et al., 2019b)

Oxysterols (7-keto-cholesterol or cholestane-3beta, 5alpha, 6beta-triol, products of cholesterol metabolism	ROS ↑	NA	NADPH oxidase-, Rac-GTPase- and PKCζ -dependent and NOS- and PI3K/Akt pathway-dependent eryptosis	(Attanzio et al., 2019a)
Phenoxodiol, an anti-cancer isoflavonoid	Unaffected ROS	NA	Ceramide-dependent eryptosis	(Fink et al., 2019)
Aqueous extract of *Calea ternifolia* (in vivo)	H_2O_2 ↑; TBARs ↑	NA	Not available	(González-Yáñez et al., 2019)
Lead-exposed workers (in vivo)	TBARs ↑	NA	Not available	(Hernández et al., 2019)
Tetrabromobisphenol A, a pollutant, and other brominated flame retardants	ROS ↑	NA	Caspase-3-dependent, Ca^{2+}- and calpain-independent eryptosis	(Jarosiewicz et al., 2019)
Atorvastatin, a blood cholesterol-reducing drug	NA	SOD ↓; catalase ↓; glutathione peroxidase ↓	Ca^{2+}-dependent eryptosis	(Rana et al., 2019)
Lysophosphatidic acid, an endogenous bioactive lipid	NA	GSH ↓	Ca^{2+}-dependent eryptosis	(Tortora et al., 2019)
Indoxyl sulfate in normoxic and hypoxic conditions	ROS ↑	GSH ↓	Ca^{2+}-dependent eryptosis	(Tozoni et al., 2019)
Extracellular histones	ROS ↑	NA	Ca^{2+}- and caspase-3-dependent eryptosis	(Yeung et al., 2019)
4-Hydroxy-trans-2-nonenal, an endogenous lipid peroxidation-associated signaling molecule	Unaffected ROS	NA	Ca^{2+}-, PGE-, caspase-3- and ceramide-dependent eryptosis	(Allegra et al., 2020)
Conoidin A (2,3-bis(bromome-thyl)-1,4-dioxide-quinoxaline), a specific and covalent inhibitor of peroxiredoxin 2	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Chakrabarty et al., 2020)
Acrylamide	ROS ↑	GSH ↓; antioxidant capacity ↓	Not available	(Cuevas-González et al., 2020)
Methylglyoxal, a glycoxidizing agent	ROS ↑	NA	Not available	(Delveaux et al., 2020)

Costunolide, a neuroprotective and anti-cancer natural sesquiterpene lactone	NA	GSH ↓	Not available	(Ghashghaeinia et al., 2020)
Naproxen sodium, a non-steroidal anti-inflammatory drug	NA	SOD ↓; catalase ↓; glutathione peroxidase ↓	Ca^{2+}-dependent eryptosis	(Ilyas et al., 2020)
2,2'-Azobis(2-amidinopropane) dihydrochloride	ROS ↑; MDA ↑; protein carbonylation ↑	GSH ↓; SOD ↑; catalase ↑; glutathione peroxidase ↓; glutathione reductase ↑	Ca^{2+}-dependent eryptosis	(Kengaiah et al., 2020)
Patients with sickle cell anemia (in vivo)	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Nader et al., 2020)
Omeprazole, a proton pump inhibitor	NA	SOD ↓; catalase ↓; glutathione peroxidase ↓	Not available	(Naveed et al., 2020)
Allicin, an anti-cancer sulfoxide in freshly crushed garlic	ROS ↑	NA	Ca^{2+}-, caspases-, p38MAPK- and CK1α-dependent eryptosis	(Sultan et al., 2020)
Glycated erythrocytes	ROS ↑; 4-HNE ↑	Unaffected SOD and catalase; glutathione peroxidase ↓	Not available	(Turpin et al., 2020)
Physcion, an anti-cancer anthraquinone	Unaffected ROS	NA	Ca^{2+}-dependent eryptosis	(Akiel et al., 2021)
[6]-Gingerol, an NF-κB antagonist	Unaffected ROS	NA	Ca^{2+}- and CK1α-dependent, caspase-3-, PKC- and p38 MAPK-independent eryptosis	(Alamri et al., 2021)
Lauric acid, a dietary saturated medium-chain fatty acid	ROS ↑; LPO ↑; superoxide anions ↑;	GSH ↓	Ca^{2+}- and CK1α-dependent, p38 MAPK- and caspase-3-independent eryptosis	(Alfhili and Aljuraiban, 2021)

	H_2O_2 ↑; protein carbonylation ↑			
Sanguinarine chloride, an epidemic dropsy toxin	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Alfhili et al., 2021a)
Bioymifi, a mimetic of TNF-related apoptosis-induced ligand (TRAIL)	ROS ↑	NA	Ca^{2+}- and p38 MAPK-dependent, PGE-, caspase-3- and CK1α-independent eryptosis	(Alfhili et al., 2021c)
β-Lapachone, a NF-κB-TNFα naphthoquinone antagonist	Unaffected ROS	NA	Ca^{2+}- and CK1α-dependent, caspase-3-, PKC- and p38 MAPK-independent eryptosis	(Alfhili et al., 2021b)
SOD, catalase-loaded poly(lactide-co-glycolide) nanoparticles	MDA ↑	NA	Not available	(Barzegar et al., 2021)
Patients with glucose-6-phosphate dehydrogenase deficiency (in vivo)	Unaffected ROS	NA	Ca^{2+}- and ceramide-independent eryptosis	(Bouguerra et al., 2021)
Tris(2-chloroethyl) phosphate and Tris(1-chloro-2-propyl) phosphate, organophosphate flame retardants	ROS ↑	Unaffected SOD, catalase, glutathione peroxidase and GSH	Not available	(Bukowska, 2021)
TNT (Tuberculosis necrotizing toxin) and IFT (Immunity factor for TNT) as NAD^+ modulators	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Chaurasiya et al., 2021)
Hypercholesterolemic patients (in vivo)	NA	Unaffected GSH	Not available	(Cilla et al., 2021)
Plasmodium berghei- and *Plasmodium falciparum*-infected erythrocytes	Vitamin C inhibited cell scrambling	NA	Not available	(Shi et al., 2021)
Semi-refined carrageenan, a food additive	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Tkachenko et al., 2021)
Aluminium as $AlCl_3$	ROS ↑;	GSH ↓	Ca^{2+}-dependent eryptosis	(Zangeneh et al., 2021)

	vitamin C increased cell scrambling and reduced ROS			
Nickel chloride, an occupational pollutant	ROS ↑	NA	Ca^{2+}- and p38 MAPK-dependent, caspase-3-, PKC- and CK1α-independent eryptosis	(Alfhili et al., 2022a)
Inauhzin, a p53 agonist	ROS ↑	NA	Ca^{2+}- and CK1α-dependent eryptosis	(Alfhili et al., 2022b)
Geraniin, an anti-cancer tannin	Unaffected ROS	NA	Ca^{2+}-dependent eryptosis	(Alsughayyir et al., 2022)
SiO_2 nanoparticles; SiO_2 nanoparticles covered with mouse plasma or grafted with polyvinylpyrrolidone	ROS ↑	NA	Ca^{2+}- and caspase-3-dependent eryptosis	(Chen et al., 2022)
Prediabetic patients (in vivo)	NA	GSH ↓	Not available	(Eligini et al., 2022)
Chronic kidney disease patients (in vivo)	NA	SOD ↑	Ca^{2+}-independent eryptosis	(Gok et al., 2022)
Angiotensin II, a vasoconstrictor	ROS scavengers inhibited eryptosis	SOD ↓; catalase ↓; peroxidase 2↓	Not available	(Huang et al., 2022)
Lead as Pb^{2+}	Unaffected ROS	NA	Ca^{2+}- and caspase-3-dependent eryptosis	(Jin et al., 2022)
Partial nephrectomy in mice	Protein carbonylation ↑	NA	Not available	(Liu et al., 2022)
Hepatitis B-related acute-on-chronic liver failure (in vivo)	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Mei et al., 2022)
Bifenthrin, an insecticide and anti-estrogenic compound	NA	SOD ↓; catalase ↓; glutathione peroxidase ↓	Not available	(Mukhtar et al., 2022)
Cigarette smoke extract	Unaffected ROS	NA	Caspase-8-, ceramide-, caspase-3- and p38 MAPK-dependent eryptosis	(Restivo et al., 2022)
Methotrexate, a chemotherapeutical agent and folate antagonist	NA	SOD ↓;	Ca^{2+}-dependent eryptosis	(Sattar et al., 2022)

		catalase ↓; glutathione peroxidase ↓		
Gold and silver nanoparticles incorporated into dextran-graft-polyacrylamide polymer nanocarrier	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Tkachenko et al., 2022)
Deguelin, a retinoid isolated from many plants	Unaffected ROS	NA	CK1α-dependent, Ca^{2+}-independent eryptosis	(Alfhili and Alsughayyir, 2023)
Delayed cerebral ischemia and cerebral vasospasm in aneurysmal subarachnoid hemorrhage (in vivo)	ROS ↑	NA	Not available	(Kaliuzhka et al., 2023)
Myricetin, an anti-cancer flavonol	ROS ↑	NA	Ca^{2+}- and ceramide-dependent eryptosis	(Liu et al., 2023)
Desipramine, a tricyclic antidepressant	ROS scavengers inhibited eryptosis	Unaffected GSH	Ca^{2+} depletion-dependent eryptosis	(Pan et al., 2023)
TiO_{2-x} nanoparticles with a different $Ti^{3+}(Ti^{2+})/Ti^{4+}$ ratio	ROS ↑	NA	Ca^{2+}-dependent eryptosis	(Prokopiuk et al., 2023)
Babesia microti-infected mice (in vivo)	ROS ↑	NA	Ca^{2+}-independent eryptosis	(Song et al., 2022)
Cerium oxide (CeO_2) nanoparticles	ROS ↑	NA	Not available	(Yefimova et al., 2023a)
$GdVO_4:Eu^{3+}$ and $LaVO_4:Eu^{3+}$ nanoparticles	Unaffected ROS	NA	Ca^{2+}-dependent eryptosis	(Yefimova et al., 2023b)
D-Ribose	ROS ↓	NA	Not available	(Zhang et al., 2023)

Abbreviations: 4-HNE – 4-Hydroxynonenal; CK1α – casein kinase 1α; GSH – reduced glutathione; GSSG – oxidized glutathione; LPO – lipid peroxidation; MDA – malondialdehyde; NA – not available; NOX – NADH oxidase; p38 MAPK – p38 mitogen-activated protein kinase; PGE – prostaglandin E; PKC – protein kinase C; ROS – reactive oxygen species; SOD – superoxide dismutase; TBARs – thiobarbituric acid reactive substance.

Table S2. Contribution of ROS and oxidative stress to erythronecroptosis

Factor/condition and its description	ROS and LPO involvement	Antioxidant defense	Mechanisms of necroptosis	Reference
Vaginolysin and intermedilysin, human CD59-specific pore-forming toxins	NOX- and iron-dependent ROS ↑	NA	Fas/FasL signaling and RIPK1-mediated, AGEs- and ceramide-dependent necroptosis	(LaRocca et al., 2014)
Pneumolysin, a human CD59-independent pore forming toxin, under human CD59 crosslinking	Iron-dependent ROS ↑	NA	Fas/FasL signaling and RIPK1-mediated, Syk-, AGEs- and ceramide-dependent necroptosis	(LaRocca et al., 2015)
Pore-forming toxins under hyperglycemic conditions	Slight ROS ↑	NA	RIPK1 / RIPK3 / MLKL-mediated, AGEs-dependent necroptosis	(LaRocca et al., 2016)
Pore-forming toxins following storage	NOX-dependent ROS ↑	NA	RIPK1 / RIPK3 / MLKL-mediated, Syk-dependent necroptosis	(McCaig et al., 2019)

Abbreviations: AGEs – advanced glycation end products; LPO – lipid peroxidation; MLKL – mixed lineage kinase domain-like protein; NA – not available; NOX – NADH oxidase; RIPK1 – receptor-interacting protein kinase 1; RIPK3 – receptor-interacting protein kinase 3; ROS – reactive oxygen species.

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