

Table S1. Antioxidant compounds under clinical trial for the treatment of liver disorders. Source: ClinicalTrials.gov (NIH). Only trials in “Recruiting”, “Enrolling by invitation”, “Active, not recruiting”, “Terminated” and “Completed” status are included.

<i>Compound</i>	<i>Mode of action</i>	<i>Liver diseases (ClinicalTrials.gov Identifier)</i>	<i>Other/Remarks</i>
Melatonin Endogenous neurohormone derived from tryptophan.	Direct detoxification of ROS/RNS; indirect stimulation of antioxidant enzymes and inhibition of the activity of pro-oxidant enzymes; chelator of transition metals.	Fibrosis: NCT03091738	Also known as N-acetyl-5-methoxytryptamine
Coenzyme Q10 Component of the electron transport chain that participates in aerobic cellular respiration.	Acts as an electron carrier and as a free-radical-scavenger	HCC: NCT01964001	Also known as ubiquinone
Lipoic acid Naturally-occurring organosulfur compound with antioxidant properties.	Electron acceptor. Can recycle other oxidants such as glutathione and vitamins C and E.	NASH: NCT01406704, NCT01650181 NAFLD: NCT04475276, NCT01650181, NCT04308980	Also known as thioctic acid
Inosine Nucleoside formed when hypoxanthine is attached to a ribose ring.	Peroxynitrite-scavenger. Inosine/Hypoxanthine conversion*.	NAFLD: NCT02930161	*Purine nucleoside phosphorylase intraconverts inosine and hypoxanthine, and hypoxanthine degradation produces ROS.
Tauroursodeoxycholic acid (TUDCA) Ambiphilic bile acid	Upregulates the expression of antioxidant genes and increases generation of GSH.	Cholestasis: NCT00004410, NCT01829698, NCT01899703, NCT01857284	Other actions: inhibition of apoptosis, decrease of ER stress and protein aggregation, stabilization of mitochondrial membranes, and activation of Nrf2.

N-Acetylcysteine (NAC) A synthetic N-acetyl derivative of the endogenous amino acid L-cysteine	Replenishment of glutathione, ROS scavenger, and protection against toxic metals.	ASH: NCT00863785 NAFLD: NCT04330326, NCT02117700 ALD: NCT00962442, NCT00863785 DILI: NCT02686385, NCT02182167, NCT03679442 Fibrosis: NCT03759158	
Carotenoids Yellow, orange, and red organic pigments produced mainly by plants	ROS scavenger	Fibrosis: NCT03659058	
Carnitine Quaternary ammonium compound synthesized in the liver.	ROS scavenger, chelator, replenishment of antioxidant enzymes, and avoids lipid peroxidation.	NAFLD: NCT03319199, NCT04330326, NCT03439917	Transports long-chain fatty acids into mitochondria to be oxidized for energy production.
Polyphenols Naturally-occurring organic compounds characterized by multiples of phenol units.	Electron donor	Fibrosis: NCT05178303	Include four principal classes: phenolic acids, flavonoids, stilbenes, and lignans.
Vitamin A Fat-soluble vitamin	Electron donor	NASH: NCT02287779 Fibrosis: NCT02227459	Also known as retinol
Vitamin C Essential nutrient that acts as a cofactor and potent water-soluble antioxidant.	Electron donor	NAFLD: NCT00862433 HCC: NCT01754987, NCT04033107 Cholestasis: NCT04787419 Fibrosis: NCT00655018, NCT03659058	Also known as ascorbic acid

Vitamin E Fat-soluble antioxidant	Radical scavenger, delivering a hydrogen atom to free radicals.	NASH: NCT03988725, NCT04977661, NCT02962297, NCT03669133, NCT02581085, NCT00063622, NCT04193982, NCT01934777 NAFLD: NCT00655018, NCT00862433, NCT02581085, NCT04193982, NCT02690792, NCT00063635, NCT01792115, NCT01147523, NCT03749070, NCT02369536 Cholestasis: NCT02633384 Fibrosis: NCT01935817, NCT03659058, NCT00119119	Also known as tocopherol
Resveratrol Natural phenol produced in several plants	ROS scavenger, promotes the activity of antioxidant enzymes and inhibits NADPH oxidase-mediated production of ROS.	NASH: NCT02030977 NAFLD: NCT01464801, NCT01446276, NCT02216552, NCT02030977	Antioxidant ability depends on the redox properties of their phenolic hydroxyl groups.
Selenium	Component of the antioxidant enzymes (Gpx, Trx)	NASH: NCT01650181, NCT04308980 NAFLD: NCT0484063, NCT04308980, NCT01650181 HCC: NCT01355107 Fibrosis: NCT00271245, NCT00212186	
Curcumin Natural yellow pigment produced in turmeric plants.	ROS scavenger, modulates the activity of GSH, catalase, and SOD enzymes and inhibits ROS-generating enzymes.	NAFLD: NCT04315350, NCT02369536, NCT02908152, NCT04315350, NCT03864783	
MitoQ Engineered mitochondria-targeted antioxidant	Continuously recycled to the active ubiquinol antioxidant by complex II of the respiratory chain, similar to CoQ10.	NAFLD: NCT01167088	Ubiquinone moiety linked to a lipophilic triphenylphosphonium (TPP) cation.

* **ALD:** alcoholic liver disease; **ASH:** alcoholic steatohepatitis; **DILI:** drug-induced liver injury; **HCC:** hepatocellular carcinoma; **NAFLD:** non-alcoholic liver disease; **NASH:** non-alcoholic steatohepatitis.