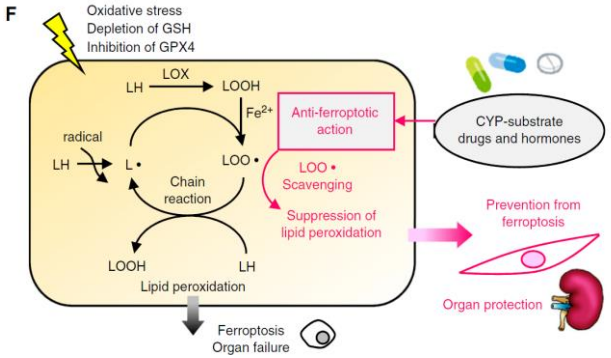
Tohoku Univ. Technology

Ferroptosis inhibitor by functioning as lipid peroxyl radical scavengers

Inhibition of ferroptosis was confirmed among clinically available drugs



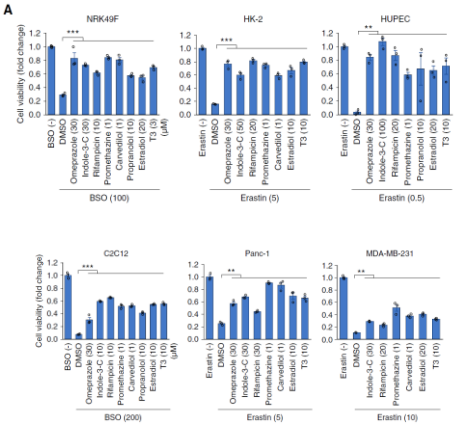
Overview

Ferroptosis is a type of cell death triggered by lipid peroxidation, and it is thought to be involved in acute organ damage and neurodegenerative diseases.
The inventors have identified several candidate drugs that inhibit ferroptosis from commonly used drugs such as cold remedies and antibacterial agents.
The candidate drugs are as follows.
Promethazine, Omeprazole, Rifampicin, Indole-3-carbinol, Carvedilol, Propranolol, β-Estradiol, 3,3',5-Triiodo-L-thyronine

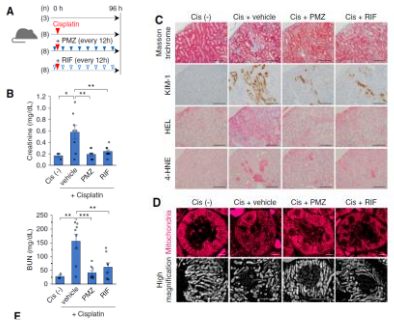
These drugs have been shown to reduce kidney and liver tissue damage, and it is expected to be applied to the treatment of various diseases involving ferroptosis.

Features・Outstandings

Anti-ferroptotic effect of the drugs on various cell lines



The anti-ferroptotic drugs ameliorated cisplatin-induced AKI



Product Application

- ☐ Drugs for the treatment of ischemic diseases
- ☐ Drugs for the treatment of neurodegenerative diseases
- ☐ Drugs for fatty hepatitis, chronic obstructive pulmonary disease, etc.

Related Works

[1] JASN 31(2):p 280-296, February 2020.
https://journals.lww.com/jasn/pages/articleviewer.aspx?year=2020&issue=02000&article=00008&type=Fulltext

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