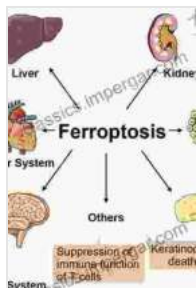


Ferroptosis: The Emerging Role in Health and Disease



Ferroptosis in Health and Disease by Andre Gide

★★★★☆ 4.4 out of 5

Language : English
File size : 17628 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 334 pages



Ferroptosis is a newly discovered form of cell death that is characterized by the accumulation of lipid peroxides. This process is distinct from apoptosis and necrosis, and it is thought to play a role in a variety of diseases, including cancer, neurodegenerative diseases, and cardiovascular disease.

What is ferroptosis?

Ferroptosis is a form of cell death that is characterized by the accumulation of lipid peroxides. Lipid peroxides are toxic molecules that can damage cell membranes and proteins. Ferroptosis is triggered by the loss of a cellular protein called glutathione peroxidase 4 (GPX4). GPX4 is an antioxidant enzyme that helps to protect cells from oxidative damage. When GPX4 is lost, cells become more susceptible to lipid peroxidation and ferroptosis.

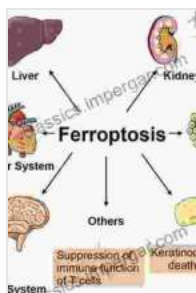
What is the role of ferroptosis in disease?

Ferroptosis is thought to play a role in a variety of diseases, including cancer, neurodegenerative disorders, and cardiovascular disease. In cancer, ferroptosis has been shown to promote tumor growth and metastasis. In neurodegenerative disorders, ferroptosis has been shown to contribute to neuronal death. In cardiovascular disease, ferroptosis has been shown to contribute to atherosclerosis and heart failure.

How can ferroptosis be prevented or treated?

There are a number of different ways to prevent or treat ferroptosis. One approach is to inhibit the production of lipid peroxides. This can be done by using antioxidants, such as vitamin E and glutathione. Another approach is to increase the expression of GPX4. This can be done by using drugs that activate the Nrf2 pathway, which is a cellular pathway that promotes the expression of antioxidant genes.

Ferroptosis is a newly discovered form of cell death that is thought to play a role in a variety of diseases, including cancer, neurodegenerative disorders, and cardiovascular disease. There are a number of different ways to prevent or treat ferroptosis, and further research is needed to understand the role of ferroptosis in disease and to develop new therapies.

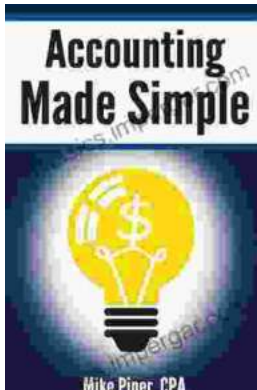


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