CMMC RESEARCH FOR HEALTH

INVITATION
CMMC SEMINAR

Dr. Mike Lange

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Lipid Droplet Quality Control: Ferroptosis Suppressor Protein 1 Protects Stored Neutral Lipids From Oxidative Damage

Lipids are vital for cell function, yet oxidative damage disrupts homeostasis and can trigger ferroptosis. While plasma membrane lipid quality control is known, protection of lipid droplets (LDs) was unclear.

We identify Ferroptosis Suppressor Protein 1 (FSP1) as the first LD quality control factor. Its loss causes accumulation of oxidized triglycerides and steryl esters, leading to cell death, whereas LD-localized FSP1 prevents peroxidation by producing ubiquinol.

Using lipidomics and genome-edited cancer cell models, Dr. Lange will highlight in his talk, that restoring LD-targeted FSP1 re-establishes protection and underscores its critical role in cell survival.

September 15, 2025
05.00 p.m.

CMMC Seminar Room
CMMC Research Building
Robert-Koch-Str. 21, 50931 Cologne

Host:
Prof. Dr. Guenter Schwarz
Inst. of Biochemistry, Dept. of Chemistry (MNF) and CMMC

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