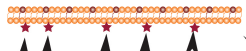


Wild type

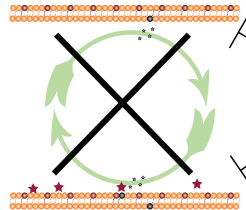
dcert¹



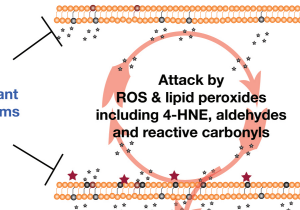
→ **LACK OF DCERT RESULTS IN DECREASED CPE IN PLASMA MEMBRANE AND INCREASED FLUIDITY**
→ **INCREASED SUSCEPTIBILITY TO REACTIVE OXYGEN SPECIES**

Attack by Free Radicals (ROS)

Attack by ROS & lipid peroxides including 4-HNE, aldehydes and reactive carbonyls



Anti-oxidant Mechanisms



→ **INCREASED LIPID PEROXIDATION e.g., 4-HNE and carbonyls**

→ **INCREASED OXIDATIVE STRESS e.g. hydroxynonylation and carbonylation of proteins**

PHYSIOLOGICAL

PATHOLOGICAL

NORMAL METABOLISM

METABOLIC DYSFUNCTION

DECREASED ATP PRODUCTION GLUCOSE IMBALANCE

NORMAL LIFE SPAN

ACCELERATED AGING LIKE PHENOMENON AND DEATH

- ★ Reactive oxygen species
- CPE
- Oxidized lipids
- Lipid peroxidation products - e.g., 4-HNE, aldehydes and reactive carbonyls