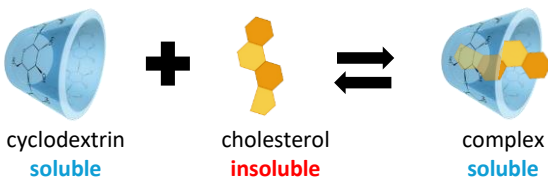




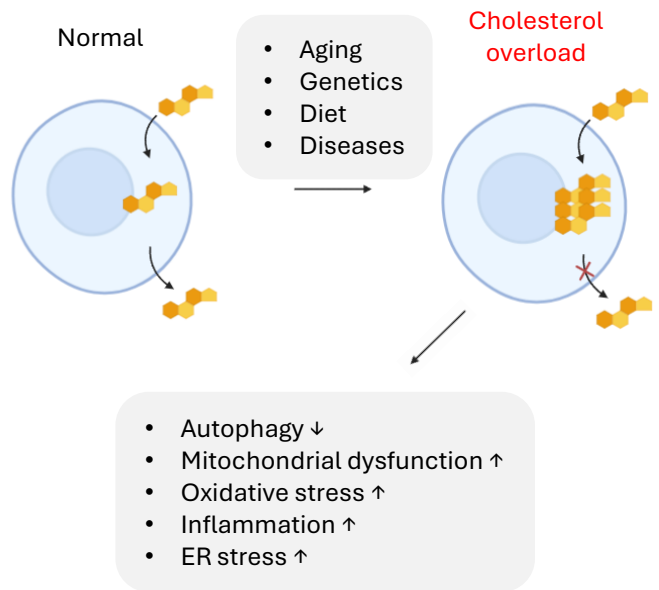
Dysregulated cholesterol metabolism and excessive accumulation of cholesterol can cause pathogenesis and progression of various diseases such as atherosclerosis, chronic kidney disease, Alzheimer’s disease, Niemann-Pick Type C, and even cancer.

Cyclodextrins (CDs) are ring-structured oligosaccharides made up of 6 (α CD), 7 (β CD), or 8 (γ CD) glucose units. They can trap small hydrophobic molecules like cholesterol inside their rings and form “inclusion complex”, increasing their solubility. CDs with high affinity to cholesterol can be used as “cholesterol-lowering agents”, as they have the potential to reduce cholesterol levels in the body.

Inclusion complex formation



Dysregulated cholesterol metabolism and impairment of key cellular pathways



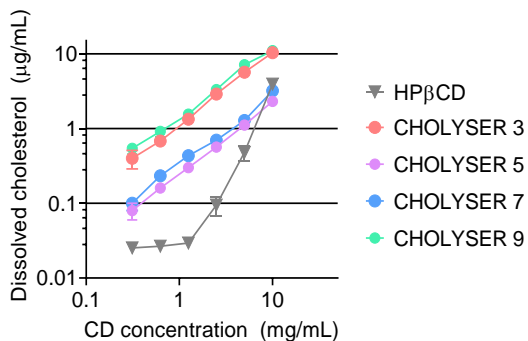
Hydroxypropyl- β -cyclodextrin (HP β CD)

- **Chemically modified β CD** commonly used to lower cellular cholesterol levels and modulate cholesterol metabolism
- **Under clinical trials** for several diseases including Niemann-Pick Type C, Alzheimer’s disease, and atherosclerosis
- **Damage to the plasma membrane** through the indiscriminate extraction of cholesterol from it, leading to adverse events

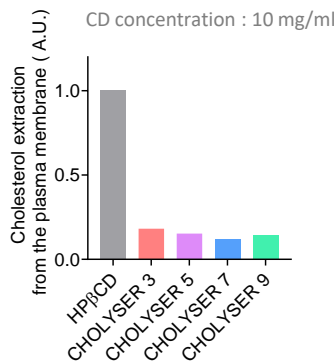
CHOLYSER™ cyclodextrins

- **Cross-linked cyclodextrins** designed for improved cholesterol solubilization and reduced plasma membrane cholesterol extraction
- **Highly preferential encapsulation of non-membranous cholesterol**, such as cholesterol crystal (CC), over membranous cholesterol
- **Demonstrated *in vivo* cholesterol modulation** in preclinical disease models
- **Wide therapeutic window**

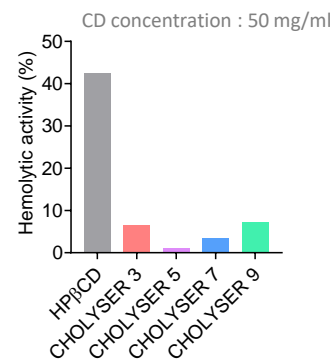
Cholesterol crystal dissolution



Cholesterol extraction



Hemolytic activity



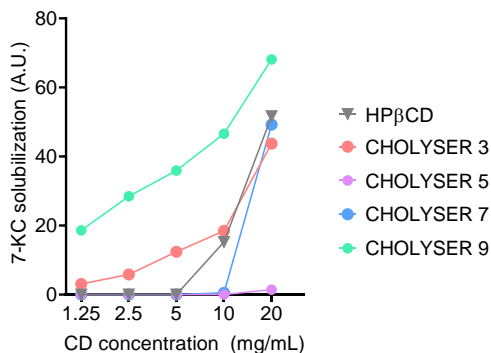
7-keto cholesterol (7-KC) is an oxidized form of cholesterol and a major oxysterol component of oxidized LDL. It is a toxic, inflammatory oxysterol associated with many diseases and aging. CHOLYSER™ 3 and 9 exhibit improved dissolution of 7-KC compared to HPβCD. Their ability to target both free cholesterol and 7-KC may provide an effective approach for addressing dysregulated cholesterol metabolism and oxidative stress.

Each CHOLYSER™ CD has its unique structure and physicochemical properties, while they share the exceptional ability to preferentially and effectively encapsulate non-membranous cholesterol over membranous cholesterol.

Potential indications :

- Atherosclerosis
- Chronic kidney disease
- Alzheimer's disease
- Parkinson's disease
- Niemann-Pick Type C
- Cancer
- Age-related macular degeneration

7-keto cholesterol dissolution



Renatus is dedicated to finding novel, safe CDs and leveraging their unique properties across various diseases, aiming to develop the most effective cholesterol modulators for each condition and significantly improve patient outcomes.

For R&D partnership, please contact us.

CHOLYSER™

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