

Restoring Health, Transforming Lives Through Innovation



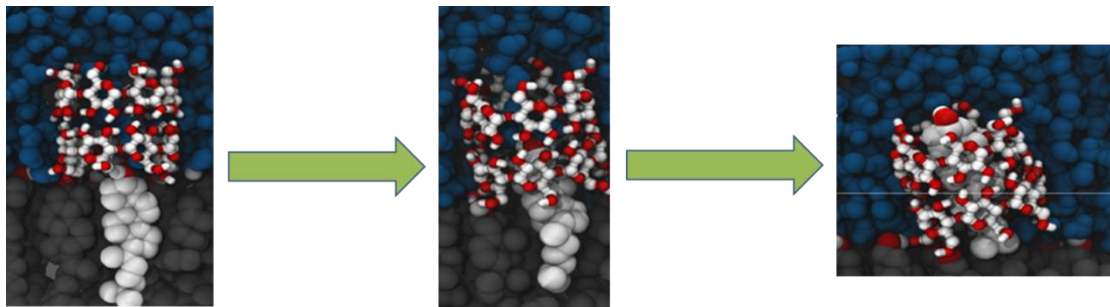
Hydroxypropyl Beta Cyclodextrin (HP β CD) Backgrounder

Hydroxypropyl beta cyclodextrin (HP β CD) is comprised of seven sugar molecules bound together in a ring (cyclic oligosaccharide). The ring-shaped, three-dimensional structure has a hydrophobic cavity in its center, which is capable of trapping cholesterol and lipids. It has been used extensively as an excipient in the food, deodorant, and drug industry for the past century, and it is generally recognized as safe (GRAS).



As an active ingredient, HP β CD entraps and removes intracellular cholesterol and lipids that can cause injury to the kidneys and other organs, including the brain and liver.

Lipid Entrapment by HP β CD for Removal from Cells



Source: Lopez CA, de Vries AH, Marrink SJ (2011) Molecular Mechanism of Cyclodextrin Mediated Cholesterol Extraction. PLoS Comput Biol 7(3): e1002020. doi:10.1371/journal.pcbi.1002020.

Scientific Support

HP β CD has shown promising pre-clinical results in kidney disease. Progression of kidney disease was prevented with HP β CD in mouse models of focal segmental glomerulosclerosis (FSGS)¹ and Alport Syndrome (AS)². Additionally, diabetic kidney disease was prevented or partially prevented with HP β CD in two pre-clinical studies³.

Promising pre-clinical results have also been demonstrated with cyclodextrin in non-renal indications, including Alzheimer's disease⁴, atherosclerosis⁵, non-alcoholic fatty liver disease⁶, and Stargardt's disease⁷. A successful Phase 1 trial has been completed with HP β CD in patients with Niemann Pick, Type C1, an orphan condition associated with lipid accumulation in the brain and liver, and a Phase 2b/3 trial is now underway⁸.

References

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