

For people with extremely high triglycerides (TGs),
such as those with **Familial Chylomicronaemia Syndrome (FCS)**

**Mechanism
of Disease**

AIM LOWER

Lowering TGs to the ESC/EAS guideline
level of **≤10 mmol/L (880 mg/dL)** reduces
the risk of acute pancreatitis¹

Not an actual patient

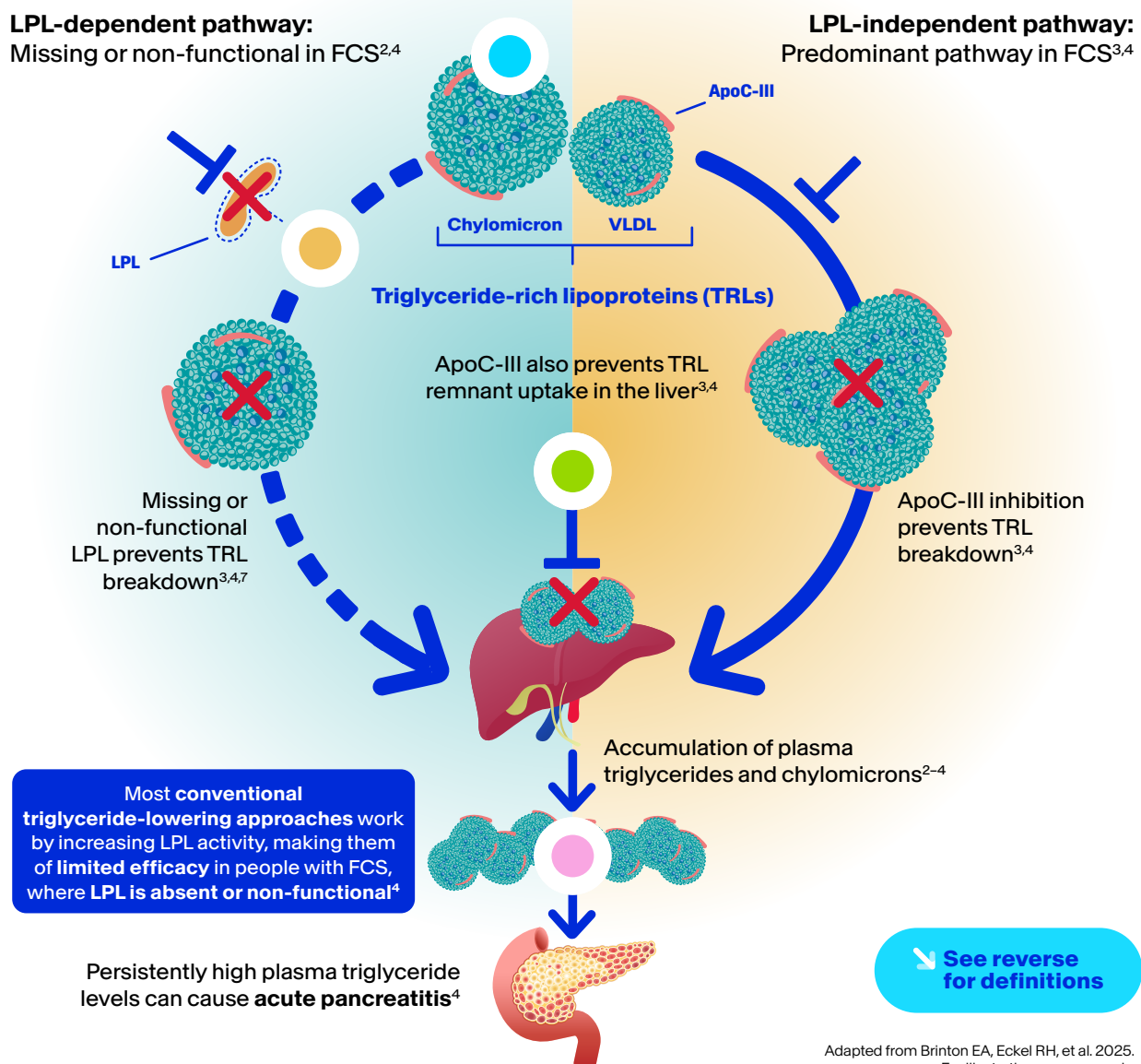
FCS is caused by missing or non-functional lipoprotein lipase (LPL) enzyme, leading to extremely high triglycerides and increased acute pancreatitis risk²⁻⁴

This guide details the underlying mechanisms of FCS and why conventional triglyceride-lowering approaches (e.g. statins, fibrates and omega-3 fatty acids) may not lower triglycerides to guideline levels in FCS^{1,4-6}

On the surface of chylomicrons and very-low-density lipoproteins (VLDLs), **apolipoprotein C-III (apoC-III)** regulates breakdown of triglycerides by inhibiting two key pathways^{4,7}

LPL-dependent pathway:
Missing or non-functional in FCS^{2,4}

LPL-independent pathway:
Predominant pathway in FCS^{3,4}



Adapted from Brinton EA, Eckel RH, et al. 2025.
For illustration purposes only.

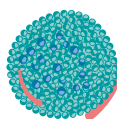
In FCS, conventional approaches have limited effect because they do not address the specific underlying cause^{2,4}

**ApoC-III inhibition**

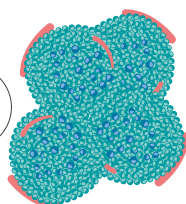
ApoC-III plays a key role in regulating triglyceride mechanism. It inhibits the breakdown of chylomicrons and clearance of subsequent triglycerides via both LPL-dependent and -independent pathways and impairs hepatic uptake of TRL remnants. This contributes to the accumulation of chylomicrons and VLDLs in plasma^{3,4}

**LPL**

LPL catalyses the breakdown of plasma triglycerides. In 80–90% of cases of FCS, there is an absence or impairment of LPL function²

**Chylomicrons and VLDLs**

Triglycerides are transported in the blood by chylomicrons and VLDLs^{3,7}

**Chylomicronaemia**

The impaired clearance of chylomicrons from the bloodstream leads to chylomicronaemia and increased risk of acute pancreatitis^{3,4}

 **TGs**

Together we can AIM LOWER at
lowertriglycerides.eu

Not an actual patient

ApoC-III, apolipoprotein C-III; **EAS**, European Atherosclerosis Society; **ESC**, European Society of Cardiology; **FCS**, Familial Chylomicronaemia Syndrome; **LPL**, lipoprotein lipase; **TG**, triglyceride; **TRL**, triglyceride-rich lipoprotein; **VLDL**, very-low-density lipoprotein.

1. Mach F, Baigent C, et al. *Eur Heart J*. 2020;41(1):111. 2. Davidson M, Stevenson M, et al. *J Clin Lipidol*. 2018;12(4):898–907. 3. Gaudet D, Brisson D, et al. *N Engl J Med*. 2014. 4;371(23):2200–6. 4. Brinton EA, Eckel RH, et al. *Atherosclerosis*. 2025;403:119114. 5. Stroes E, Moulin P, et al. *Atheroscler Suppl*. 2017;23:1–7. 6. Gouni-Berthold I. *J Endocr Soc*. 2020;4(2):bvz035. 7. Ginsberg HN, Packard CJ, et al. *Eur Heart J*. 2021;42(47):4791–806.