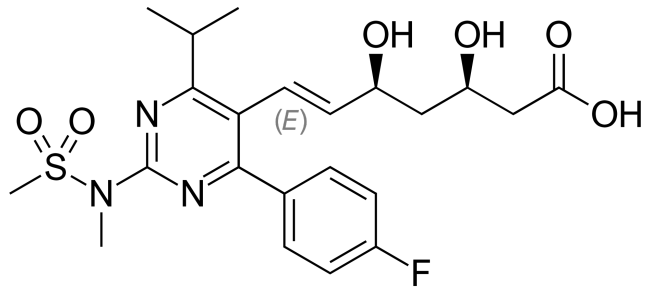
Brand Name: Crestor
Generic: rosuvastatin
Type: small molecule
Year Accepted/Phase: 2003

Mechanism:

Rosuvastatin inhibits HMG-CoA reductase, reducing the synthesis of cholesterol in the liver. This leads to increased clearance of low-density lipoprotein (LDL) cholesterol from the blood.

Chemical Structure:



Indication:

Crestor is indicated for the treatment of hypercholesterolemia (high cholesterol) and mixed dyslipidemia, as well as for the prevention of cardiovascular events in patients at risk of developing heart disease.

Clinical trials:

METEOR Trial (Phase III)
Pubmed: https://pubmed.ncbi.nlm.nih.gov/17384434/
Purpose: Assess the impact of rosuvastatin on the progression of carotid intima-media thickness (CIMT), a marker of atherosclerosis, in individuals with low cardiovascular risk.
Dates: Conducted from 2002 to 2005.
Results: The METEOR trial demonstrated that rosuvastatin significantly slowed the progression of CIMT compared to placebo in individuals with subclinical atherosclerosis and low cardiovascular risk.
Impact: These results supported the use of Crestor in reducing the progression of atherosclerosis.

JUPITER Trial (Phase III)
Pubmed: https://pubmed.ncbi.nlm.nih.gov/20057896/
Purpose: Evaluate the efficacy of rosuvastatin in preventing major cardiovascular events in individuals with normal LDL cholesterol but elevated high-sensitivity C-reactive protein (hs-CRP).
Dates: Conducted from 2003 to 2008.
Results: The JUPITER trial showed that rosuvastatin significantly reduced the risk of major cardiovascular events, including myocardial infarction, stroke, and cardiovascular death, in individuals with elevated hs-CRP but normal LDL cholesterol levels.
Impact: These results led to broader use of Crestor for primary prevention of cardiovascular events in individuals with elevated hs-CRP.

ASTEROID Trial (Phase III)
Pubmed: https://pubmed.ncbi.nlm.nih.gov/19804256/
Purpose: Assess the effect of high-dose rosuvastatin on coronary atherosclerosis regression using intravascular ultrasound (IVUS).
Dates: Conducted from 2004 to 2006.
Results: The ASTEROID trial demonstrated that high-dose rosuvastatin led to significant regression of coronary atherosclerosis as measured by IVUS.
Impact: These results provided evidence of the beneficial effects of aggressive lipid-lowering therapy with Crestor on coronary atherosclerosis.