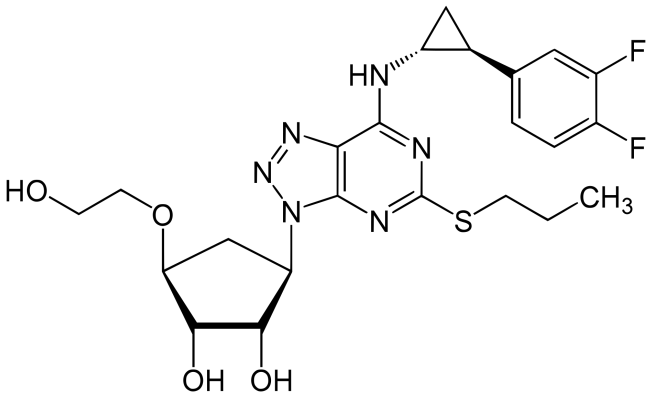
Brand Name: Brilinta/Brilique
Generic: ticagrelor
Type: small molecule
Year Accepted/Phase: 2011

Mechanism:

Ticagrelor is a reversible P2Y12 receptor antagonist that inhibits platelet aggregation by preventing ADP from binding to its receptor on platelets. This inhibition reduces the risk of thrombus formation.

Chemical Structure:



Indication:

Brilinta is indicated for the reduction of thrombotic cardiovascular events in patients with acute coronary syndromes (ACS) or a history of myocardial infarction.

Clinical trials:

PLATO Trial (Phase III)
Pubmed: https://pubmed.ncbi.nlm.nih.gov/19717846/
Purpose: Compare the efficacy and safety of ticagrelor to clopidogrel in patients with acute coronary syndromes.
Dates: Conducted from 2006 to 2009.
Results: The PLATO trial demonstrated that ticagrelor significantly reduced the rate of cardiovascular events, including death, myocardial infarction, and stroke, compared to clopidogrel in patients with acute coronary syndromes. The trial also showed that ticagrelor had a manageable safety profile, with a higher incidence of non-CABG-related major bleeding compared to clopidogrel.
Impact: These results supported the approval of Brilinta for the treatment of acute coronary syndromes.

PEGASUS-TIMI 54 Trial (Phase III)
Pubmed: https://pubmed.ncbi.nlm.nih.gov/25773268/
Purpose: Evaluate the long-term efficacy and safety of ticagrelor in patients with a history of myocardial infarction.
Dates: Conducted from 2010 to 2014.
Results: The PEGASUS-TIMI 54 trial demonstrated that ticagrelor, when added to aspirin, significantly reduced the risk of major cardiovascular events (cardiovascular death, myocardial infarction, or stroke) compared to placebo in patients with a history of myocardial infarction. The trial also showed an increased risk of major bleeding with ticagrelor compared to placebo.
Impact: These results supported the use of Brilinta for the long-term prevention of cardiovascular events in patients with a history of myocardial infarction.