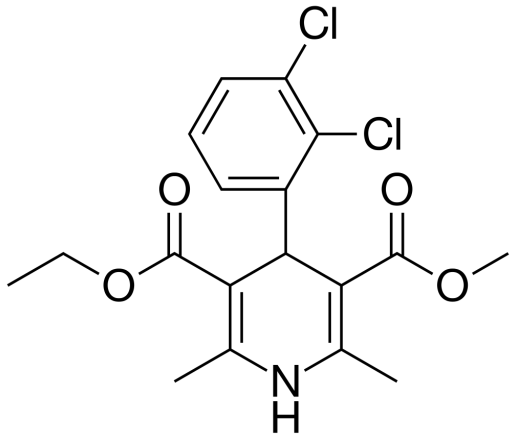
Brand Name: Plendil
Generic: felodipine
Type: small molecule
Year Accepted/Phase: 1991

Mechanism:

Felodipine inhibits the influx of calcium ions into vascular smooth muscle and cardiac muscle. This inhibition causes relaxation of the vascular smooth muscle, leading to vasodilation and a subsequent decrease in blood pressure.

Chemical Structure:



Indication:

Plendil is indicated for the treatment of hypertension and can be used alone or in combination with other antihypertensive agents.

Clinical trials:

Initial Clinical Trials for Hypertension (Phase III)

Pubmed: https://pubmed.ncbi.nlm.nih.gov/3327673/
Purpose: Assess the efficacy and safety of felodipine in treating hypertension.
Dates: Conducted in the late 1980s.
Results: These trials demonstrated that felodipine effectively lowered blood pressure in patients with mild to moderate hypertension. The medication was shown to be well-tolerated with a favorable safety profile. Common side effects included headache, flushing, and peripheral edema (swelling of the legs and ankles).
Impact: The positive results from these trials supported the use of felodipine as an effective antihypertensive agent.

HOT (Hypertension Optimal Treatment) Trial (Phase IV)

Pubmed: https://pubmed.ncbi.nlm.nih.gov/8193735/
Purpose: Evaluate the optimal target blood pressure for patients with hypertension and the efficacy of felodipine in achieving these targets.
Dates: Conducted from 1992 to 1998.
Results: The HOT trial found that achieving lower target blood pressures significantly reduced the risk of major cardiovascular events. Felodipine was used in combination with other antihypertensive agents to achieve these targets and was found to be effective and safe.
Impact: The trial provided important data on the benefits of aggressive blood pressure control and supported the use of felodipine in achieving these targets.

ASCOT (Anglo-Scandinavian Cardiac Outcomes Trial)

Pubmed: https://pubmed.ncbi.nlm.nih.gov/16154016/
Purpose: Compare the effects of two different antihypertensive treatment strategies on cardiovascular outcomes in patients with hypertension and additional risk factors.
Dates: Conducted from 1998 to 2005.
Results: The ASCOT trial compared an amlodipine-based regimen (with felodipine as an alternative) to an atenolol-based regimen. The study found that the calcium channel blocker-based regimen resulted in better cardiovascular outcomes, including reductions in stroke and all-cause mortality.
Impact: The trial supported the use of calcium channel blockers, including felodipine, as effective treatments for reducing cardiovascular risk in patients with hypertension.