Benidipine is a long-lasting dihydropyridine calcium channel blocker. Its antihypertensive activity involves the inhibition of Ca(2+)^+ influx through L-type voltage dependent calcium channels and the ability to restore endothelial function. It prevents lysoPC-induced caspase-3 activation through stimulation of NO release thereby exerts its anti-apoptosis action on endothelial cells. Benidipine increases the maximal activity of ERK1/2 but has no significant effect on p38 MAPK, decreases mitochondrial cytochrome c release, and reduces caspase-9 activation.

Benidipine was shown to have antioxidant effect in reducing hydroxyl radicals formation and PKC-dependent NO production. It inhibits [3H]thymidine incorporation into vascular smooth muscle cells (VSMCs), an indication of its anti-proliferative effects which may be useful for the treatment of restenosis following angioplasty and atherosclerosis damages.

References
