
CALCIGARD- 10 RETARD / CALCIGARD RETARD

1. Generic Name

Nifedipine Sustained - Release Tablets I.P.

2. Qualitative and quantitative Composition:

CALCIGARD-10 RETARD

Each film coated sustained release tablet contains:

Nifedipine I.P.....10 mg

Colours: Red Oxide of Iron & Titanium Dioxide I.P.

The Excipients used are MCC, Corn Starch, Glyceryl Dibehenate, Polyvinyl Pyrrolidone (K30), Polysorbate 80, Methanol, Isopropyl Alcohol, Colloidal Silicon Dioxide, Talc, Methylene Chloride, Hydroxy Propyl Methyl Celu., Titanium Dioxide, Propylene Glycol, Ferric Oxide red.

CALCIGARD-RETARD

Each film coated sustained release tablet contains:

Nifedipine I.P.....20 mg

Colours: Carmoisine, Sunset Yellow FCF, Indigo Carmine & Titanium Dioxide I.P.

The Excipients used are MCC, Corn Starch, Glyceryl Dibehenate, Polyvinyl Pyrrolidone (K30), Polysorbate 80, Methanol, Isopropyl Alcohol, Colloidal Silicon Dioxide, Talc, Methanol, Methylene Chloride, Hydroxy Propyl Methyl Celu., Titanium Dioxide, Propylene Glycol, Pigment Blend,.

3. Dosage form and strength

Dosage form: Film coated sustained - release tablet

Strength: Nifedipine 10 mg and 20 mg tablets

4. Clinical particulars

4.1. Therapeutic indication

For the treatment of mild to moderate hypertension.

For the prophylaxis of chronic stable angina pectoris either as monotherapy or in combination with a beta-blocker.

4.2. Posology and method of administration

In mild to moderate hypertension, the recommended initial dose is one 20 mg tablet once daily. In severe hypertension, the recommended initial dose is one 30 mg tablet once daily. If necessary, the dosage can be increased according to individual requirements up to a maximum of 90 mg once daily.

For the prophylaxis of angina pectoris, the recommended initial dose is one 30 mg tablet once daily. The dosage can be increased according to individual requirements up to a maximum of 90 mg once daily.

Patients in whom hypertension or anginal symptoms are controlled: Prophylactic antianginal efficacy is maintained when patients are switched from other calcium antagonists such as

diltiazem or verapamil to Nifedipine sustained release. Patients switched from other calcium antagonists should initiate therapy at the recommended initial dose of 30 mg Nifedipine sustained release once daily. Subsequent titration to a higher dose may be initiated as warranted clinically.

Co-administration with CYP 3A4 inhibitors or CYP 3A4 inducers may result in the recommendation to adapt the nifedipine dose or not to use nifedipine at all.

Duration of treatment

Treatment may be continued indefinitely

Additional information on special populations

Elderly (>65 years)

Based on pharmacokinetic data for Nifedipine sustained release no dose adaptation in elderly people above 65 years is necessary

Renal impairment:

Based on pharmacokinetic data, no dosage adjustments is required in patients with renal impairment.

Paediatric population

The safety and efficacy of nifedipine in children under the age 18 years have not been established.

Currently available data for the use of nifedipine in hypertension.

4.3. Contraindications

- Nifedipine sustained release should not be administered to patients with known hypersensitivity to the active substance, or to other dihydropyridines because of the theoretical risk of cross-reactivity, or to any of the excipients.
- Nifedipine should not be used in cases of cardiogenic shock, clinically significant aortic stenosis, unstable angina, or during or within one month of a myocardial infarction.
- Nifedipine sustained release should not be used for the treatment of acute attacks of angina.
- The safety of Nifedipine sustained release in malignant hypertension has not been established. Nifedipine sustained release should not be used for secondary prevention of myocardial infarction.
- Owing to the duration of action of the formulation, Nifedipine sustained release should not be administered to patients with hepatic impairment.
- Nifedipine sustained release should not be administered to patients with a history of gastrointestinal obstruction, oesophageal obstruction, or any degree of decreased lumen diameter of the gastro-intestinal tract.
- Nifedipine sustained release must not be used in patients with a Kock pouch (ileostomy after proctocolectomy).
- Nifedipine sustained release is contra-indicated in patients with inflammatory bowel disease or Crohn's disease.
- Nifedipine sustained release should not be administered concomitantly with rifampicin since effective plasma levels of nifedipine may not be achieved owing to enzyme induction.

4.4. Special warnings and precautions for use

Caution should be exercised in patients with hypotension as there is a risk of further reduction in blood pressure and care must be exercised in patients with very low blood pressure (severe hypotension with systolic blood pressure less than 90 mm Hg).

Nifedipine sustained release should not be used during pregnancy unless the clinical condition of the woman requires treatment with nifedipine. Nifedipine sustained release should be reserved for women with severe hypertension who are unresponsive to standard therapy.

Careful monitoring of blood pressure must be exercised when administering nifedipine with I.V. magnesium sulphate, owing to the possibility of an excessive fall in blood pressure, which could harm both mother and foetus.

It is not recommended for use during breast-feeding because nifedipine has been reported to be excreted in human milk and the effects of nifedipine exposure to the infant are not known.

In patients with impaired liver function careful monitoring and, in severe cases, a dose reduction may be necessary.

It may be used in combination with beta-blocking drugs and other antihypertensive agents but the possibility of an additive effect resulting in postural hypotension should be borne in mind. Nifedipine sustained release will not prevent possible rebound effects after cessation of other antihypertensive therapy.

It should be used with caution in patients whose cardiac reserve is poor.

Deterioration of heart failure has occasionally been observed with nifedipine.

Diabetic patients taking Nifedipine sustained release may require adjustment of their control.

In dialysis patients with malignant hypertension and hypovolaemia, a marked decrease in blood pressure can occur.

Nifedipine is metabolised via the cytochrome P450 3A4 system. Drugs that are known to either inhibit or to induce this enzyme system may therefore alter the first pass or the clearance of nifedipine.

Drugs, which are known inhibitors of the cytochrome P450 3A4 system, and which may therefore lead to increased plasma concentrations of nifedipine include, for example:

- macrolide antibiotics (e.g., erythromycin)
- anti-HIV protease inhibitors (e.g., ritonavir)
- azole antimycotics (e.g., ketoconazole)
- the antidepressants, nefazodone and fluoxetine
- quinupristin/dalfopristin
- valproic acid
- cimetidine

Upon co-administration with these drugs, the blood pressure should be monitored and, if necessary, a reduction of the nifedipine dose should be considered.

As the outer membrane of the Nifedipine sustained release tablet is not digested, what appears to be the complete tablet may be seen in the toilet or associated with the patient's stools. Also, as a result of this, care should be exercised when administering Nifedipine sustained release to patients, as obstructive symptoms may occur. Bezoars can occur in very rare cases and may require surgical intervention.

In single cases, obstructive symptoms have been described without known history of gastrointestinal disorders.

A false positive effect may be experienced when performing a barium contrast x-ray.

Patients with rare hereditary problems of galactose intolerance, the total lactase deficiency or glucose-galactose malabsorption should not take this medicine.

4.5. Drugs interactions

Drugs that affect nifedipine

Nifedipine is metabolised via the cytochrome P450 3A4 system located both in the intestinal mucosa and in the liver. Drugs that are known to either inhibit or induce this enzyme system may therefore alter the absorption (after oral administration) or clearance of nifedipine.

The extent as well as the duration of interactions should be taken into account when administering nifedipine together with the following drugs:

Rifampicin:

Rifampicin strongly induces the cytochrome P450 3A4 system. Upon coadministration with rifampicin, the bioavailability of nifedipine is distinctly reduced and thus its efficacy weakened. The use of nifedipine in combination with rifampicin is therefore contraindicated.

Upon co-administration of known inhibitors of the cytochrome P450 3A4 system, the blood pressure should be monitored and, if necessary, a reduction in the nifedipine dose considered. In the majority of these cases, no formal studies to assess the potential for a drug interaction between nifedipine and the drug(s) listed have been undertaken, thus far.

Drugs increasing nifedipine exposure:

- macrolide antibiotics (e.g. erythromycin)
- anti-HIV protease inhibitors (e.g. ritonavir)
- azole antimycotics (e.g., ketoconazole)
- fluoxetine
- nefazodone
- quinupristin/dalfosristin
- cisapride
- valproic acid
- cimetidine
- diltiazem

Upon co-administration of inducers of the cytochrome P450 3A4 system, the clinical response to nifedipine should be monitored and, if necessary, an increase in the nifedipine dose considered. If the dose of nifedipine is increased during coadministration of both drugs, a reduction of the nifedipine dose should be considered when the treatment is discontinued.

Drugs decreasing nifedipine exposure:

- rifampicin
- phenytoin
- carbamazepine

- phenobarbital

Effects of nifedipine on other drugs

Nifedipine may increase the blood pressure lowering effect of concomitant applied antihypertensives.

When nifedipine is administered simultaneously with β -receptor blockers the patient should be carefully monitored, since deterioration of heart failure is also known to develop in isolated cases.

Digoxin:

The simultaneous administration of nifedipine and digoxin may lead to reduced digoxin clearance and, hence, an increase in the plasma digoxin level. The patient should therefore be subjected to precautionary checks for symptoms of digoxin overdosage and, if necessary, the glycoside dose should be reduced.

Quinidine:

Co-administration of nifedipine with quinidine may lower plasma quinidine levels, and after discontinuation of nifedipine, a distinct increase in plasma quinidine levels may be observed in individual cases. Consequently, when nifedipine is either additionally administered or discontinued, monitoring of the quinidine plasma concentration, and if necessary, adjustment of the quinidine dose is recommended. Blood pressure should be carefully monitored and, if necessary, the dose of nifedipine should be decreased.

Tacrolimus:

Tacrolimus is metabolised via the cytochrome P450 3A4 system. Published data indicate that the dose of tacrolimus administered simultaneously with nifedipine may be reduced in individual cases. Upon co-administration of both drugs, the tacrolimus plasma concentrations should be monitored and, if necessary, a reduction in the tacrolimus dose considered.

Drug food interactions:

Grapefruit juice inhibits the cytochrome P450 3A4 system. Administration of nifedipine together with grapefruit juice thus results in elevated plasma concentrations and prolonged action of nifedipine due to a decreased first pass metabolism or reduced clearance. As a consequence, the blood pressure lowering effect of nifedipine may be increased. After regular intake of grapefruit juice, this effect may last for at least three days after the last ingestion of grapefruit juice. Ingestion of grapefruit/grapefruit juice is therefore to be avoided while taking nifedipine

Other forms of interactions

Nifedipine may increase the spectrophotometric values of urinary vanillylmandelic acid falsely. However, HPLC measurements are unaffected.

4.6. Use in special populations (such as pregnant women, lactating women, paediatric patients, geriatric patients etc.)

Pregnancy

Nifedipine should not be used during pregnancy unless the clinical condition of the woman requires treatment with nifedipine.

There is no adequate data from the use of nifedipine in pregnant women.

In animal studies, nifedipine has shown embryotoxicity, fetotoxicity and teratogenic effects.

From the clinical evidence available a specific prenatal risk has not been identified, although an increase in perinatal asphyxia, caesarean delivery, as well as prematurity and intrauterine

growth retardation have been reported. It is unclear whether these reports are due to the underlying hypertension, its treatment, or to a specific drug effect.

The available information is inadequate to rule out adverse drug effects on the unborn and newborn child. Therefore, any use in pregnancy requires a very careful individual risk benefit assessment and should only be considered if all other treatment options are either not indicated or have failed to be efficacious.

Acute pulmonary oedema has been observed when calcium channel blockers, among others nifedipine, have been used as a tocolytic agent during pregnancy, especially in cases of multiple pregnancy (twins or more), with the intravenous route and/or concomitant use of beta-2 agonists.

Breast-feeding

Nifedipine is excreted into breast milk. The nifedipine concentration in the milk is almost comparable with mother serum concentration. For immediate release formulations, it is proposed to delay breast-feeding or milk expression for 3 to 4 hours after drug administration to decrease the nifedipine exposure to the infant.

Fertility

In single cases of in vitro fertilisation calcium antagonists like nifedipine have been associated with reversible biochemical changes in the spermatozoa's head section that may result in impaired sperm function. In those men who are repeatedly unsuccessful in fathering a child by in vitro fertilisation, and where no other explanation can be found, calcium antagonists like nifedipine should be considered as possible causes.

4.7. Effects on ability to drive and use machines

Reactions to the drug, which vary in intensity from individual to individual, may impair the ability to drive or to operate machinery. This applies particularly at the start of treatment, on changing the medication and in combination with alcohol.

4.8. Undesirable effects

Adverse drug reactions (ADRs) based on placebo-controlled studies with nifedipine sorted by CIOMS III categories of frequency (clinical trial data base: nifedipine n=2,661; placebo n=1,486; status: 22Feb 2006 and the ACTION study: nifedipine n=3,825; placebo n=3,840) are listed below.

ADRs listed under “common” were observed with a frequency below 3% with the exception of oedema (9.9%) and headache (3.9%)

The frequencies of ADRs reported with nifedipine-containing products are summarised in the table below. Within each frequency grouping, undesirable effects are presented in order of decreasing seriousness. Frequencies are defined as common ($\geq 1/100$ to $< 1/10$), uncommon ($\geq 1/1,000$ to $< 1/100$) and rare ($\geq 1/10,000$ to $< 1/1,000$). The ADRs identified only during the ongoing postmarketing surveillance, and for which a frequency could not be estimated, are listed under “Not known”.

System Organ Class	Common	Uncommon	Rare	Not Known
Blood and lymphatic system disorders				Agranulocytosis, Leucopenia

System Organ Class	Common	Uncommon	Rare	Not Known
Immune System Disorders		Allergic reaction, Allergic oedema/angioedema (incl. larynx oedema*)	Pruritus Urticaria Rash	Anaphylactic/ anaphylactoid reaction
Psychiatric Disorders		Anxiety reactions, sleep disorders		Depression
Metabolism and Nutrition Disorders				Hyperglycaemia
Nervous system disorders	Headache	Dizziness vertigo, migraine, tremor	Par- /Dysaesthesia	Hypoaesthesia, somnia
Eye disorders:		Visual disturbances		Eye pain
Cardiac disorders		Tachycardia, Palpitations		Chest pain (Angina pectoris)
Vascular Disorders	Oedema (incl. peripheral oedema) Vasodilatation	Hypotension, Syncope		
Musculoskeletal and connective tissue disorders		Joint swelling, muscle cramps		Arythralgia, Myalgia
Respiratory, thoracic and mediastinal		Nosebleed, nasal congestion		Dyspnoea Pulmonary oedema**
Gastrointestinal disorders:	Constipation	Gastrointestinal and abdominal pain, Nausea, Dyspepsia, Flatulence, Dry mouth	Gingival hyperplasia.	Bezoar Dysphagia, Intestinal obstruction, Intestinal ulcer, Vomiting, Gastroesophageal sphincter insufficiency
Hepatobiliary Disorders		Transient Increase in liver enzymes		Jaundice

System Organ Class	Common	Uncommon	Rare	Not Known
Skin and subcutaneous tissue disorders:		Erythema	Rash, Pruritus, Urticaria	Toxic epidermal necrolysis, palpable purpura. Photosensitivity allergic reaction
Renal and Urinary Disorders		Polyuria, Dysuria		
Reproductive system and breast disorders:		Erectile dysfunction.		
General disorders and administration site conditions	Feeling unwell,	Unspecific pain, chills		

*May result in life-threatening outcome

**cases have been reported when used as tocolytic during pregnancy

In dialysis patients with malignant hypertension and hypovolaemia a distinct fall in blood pressure can occur as a result of vasodilation

Reporting of adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Report suspected adverse reactions via any point of contact available at www.torrentpharma.com or at email: pv@torrentpharma.com or call on 1800-120-3001.

4.9. Overdose

Symptoms

The following symptoms are observed in cases of severe nifedipine intoxication:

Disturbances of consciousness to the point of coma, a drop in blood pressure, tachycardia, bradycardia, hyperglycaemia, metabolic acidosis, hypoxia, cardiogenic shock with pulmonary oedema.

Treatment

As far as treatment is concerned, elimination of nifedipine and the restoration of stable cardiovascular conditions have priority. Elimination must be as complete as possible, including the small intestine, to prevent the otherwise inevitable subsequent absorption of the active substance.

The benefit of gastric decontamination is uncertain.

- Consider activated charcoal (50 g for adults, 1 g/kg for children) if the patient presents within 1 hour of ingestion of a potentially toxic amount.

Although it may seem reasonable to assume that late administration of activated charcoal may be beneficial for sustained release (SR, MR) preparations there is no evidence to support this.

- Alternatively consider gastric lavage in adults within 1 hour of a potentially life-threatening overdose
- Consider further doses of activated charcoal every 4 hours if a clinically significant amount of a sustained release preparation has been ingested with a single dose of an osmotic laxative (e.g. sorbitol, lactulose or magnesium sulfate).
- Asymptomatic patients should be observed for at least 4 hours after ingestion and for 12 hours if a sustained release preparation has been taken.

Haemodialysis serves no purpose, since nifedipine is not dialysable, but plasmapheresis is advisable (high plasma protein-binding, relatively low volume of distribution).

Hypotension as a result of cardiogenic shock and arterial vasodilatation can be treated with calcium (10-20 ml of a 10% calcium gluconate solution administered intravenously over 5-10 minutes). If the effects are inadequate, the treatment can be continued, with ECG monitoring. If an insufficient increase in blood pressure is achieved with calcium, vasoconstricting sympathomimetics such as dopamine or noradrenaline should be administered. The dosage of these drugs should be determined by the patient's response.

Symptomatic bradycardia may be treated with atropine, beta-sympathomimetics or a temporary cardiac pacemaker, as required.

Additional fluids should be administered with caution to avoid cardiac overload.

5. Pharmacological properties

5.1. Mechanism of Action

Nifedipine is a calcium antagonist of the 1,4-dihydropyridine type. Calcium antagonists reduce the transmembranal influx of calcium ions through the slow calcium channel into the cell as specific and potent calcium antagonist. Nifedipine has a spasmolytic effect on the cells of the myocardium, vascular wall of mainly coronary arteries and the peripheral resistance vessels. The main action of nifedipine is to relax the smooth arterial muscle, both in the coronary and peripheral circulation.

5.2. Pharmacodynamic properties

In hypertension, the main action of nifedipine is to cause peripheral vasodilatation and thus reduce peripheral resistance. Nifedipine administered once-daily provides 24-hour control of raised blood pressure. Nifedipine causes reduction in blood pressure such that the percentage lowering is proportional to its initial level. In normotensive individuals, nifedipine has little or no effect on blood pressure.

In angina, Nifedipine reduces peripheral and coronary vascular resistance, leading to an increase in coronary blood flow, cardiac output and stroke volume, whilst decreasing after-load. Additionally, nifedipine dilates submaximally both clear and atherosclerotic coronary arteries, thus protecting the heart against coronary artery spasm and improving perfusion to the ischemic myocardium. Nifedipine reduces the frequency of painful attacks and the ischemic ECG changes irrespective of the relative contribution from coronary artery spasm or atherosclerosis.

In a multi-national, randomized, double-blind, prospective study involving 6321 hypertensive patients with at least one additional risk factor followed over 3 to 4.8 years, Nifedipine sustained release 30 and 60 (nifedipine GITS) were shown to reduce blood pressure to a comparable degree as a standard diuretic combination.

Paediatric population:

Limited information on comparison of nifedipine with other antihypertensives is available for both acute hypertension and long-term hypertension with different formulations in different dosages. Antihypertensive effects of nifedipine have been demonstrated but dose recommendations, long term safety and effect on cardiovascular outcome remain unestablished. Paediatric dosing forms are lacking

5.3. Pharmacokinetic properties

General characteristics:

Nifedipine sustained release tablets are formulated to provide nifedipine at an approximately constant rate over 24 hours. Nifedipine is released from the tablet at a zero-order rate by a membrane controlled, osmotic push-pull process. The pharmacokinetic profile of this formulation is characterized by low peak-trough fluctuation. 0-24 hour plasma concentration versus time profiles at steady state are plateau-like, rendering the Nifedipine sustained release tablet appropriate for once-a-day administration.

The delivery rate is independent of gastrointestinal pH or motility. Upon swallowing, the biologically inert components of the tablet remain intact during gastrointestinal transit and are eliminated in the faeces as an insoluble shell.

Absorption

Orally administered nifedipine is almost completely absorbed in the gastro-intestinal tract. The systemic availability of orally administered nifedipine immediate release formulations (nifedipine capsules) is 45–56% owing to a first pass effect. Administration in the presence of food slightly alters the early rate of absorption but does not influence the extent of drug availability.

Distribution

Nifedipine is about 95% bound to plasma protein (albumin). The distribution half-life after intravenous administration has been determined to be 5 to 6 minutes.

Biotransformation

After oral administration, nifedipine is metabolized in the gut wall and in the liver, primarily by oxidative processes. These metabolites show no pharmacodynamic activity. Nifedipine is eliminated in the form of its metabolites, predominantly via the kidneys, with approximately 5-15% being excreted via the bile in the faeces. Non-metabolized nifedipine can be detected only in traces (below 0.1%) in the urine.

Elimination

The terminal elimination half-life is 1.7 to 3.4 h in conventional formulations (nifedipine capsules). The terminal half-life following Nifedipine sustained release administration does not represent a meaningful parameter as a plateau-like plasma concentration is maintained during release from the tablets and absorption. After release and absorption of the last dose the plasma concentration finally declines with an elimination of half-life as seen in conventional formulations.

Characteristics in patients:

There are no significant differences in the pharmacokinetics of nifedipine between healthy subjects and subjects with renal impairment. Therefore, dosage adjustment is not needed in these patients. In patients with hepatic impairment, the elimination of half-life is distinctly prolonged, and the total clearance is reduced. Owing to the duration of action of the formulation, Nifedipine sustained release should not be administered in these patients

6. Nonclinical properties

6.1. Animal Toxicology or Pharmacology

Preclinical data reveal no special hazard for humans based on conventional studies of safety pharmacology, repeated dose toxicity, genotoxicity and carcinogenic potential.

Following acute oral and intravenous administration of nifedipine in various animal species, the following LD50 (mg/kg) values were obtained:

	Oral	Intravenous
Mouse	494 (421-572) *	4.2 (3.8-4.6) *
Rat	1022 (950-1087) *	15.5 (13.7-17.5) *
Rabbit	250-500	2-3
Cat	~ 100	0.5-8
Dog	> 250	2-3.

* 95% confidence interval.

In subacute and sub chronic toxicity studies in rats and dogs, nifedipine was tolerated without damage at doses of up to 50 mg/kg (rats) and 100 mg/kg (dogs) p.o. over periods of thirteen and four weeks, respectively. Following intravenous administration, dogs tolerated up to 0.1 mg/kg nifedipine for six days without damage. Rats tolerated daily intravenous administration of 2.5 mg/kg nifedipine over a period of three weeks without damage.

In chronic toxicity studies in dogs with treatment lasting up to one year, nifedipine was tolerated without damage at doses up to and including 100 mg/kg p.o. In rats, toxic effects occurred at concentrations above 100 ppm in the feed (approximately 5-7 mg/kg bodyweight). In a carcinogenic study in rats (two years), there was no evidence of the carcinogenic effects of nifedipine.

Nifedipine has been shown to produce teratogenic findings in rats, mice and rabbits, including digital anomalies, malformation of the extremities, cleft palates, cleft sternum and malformation of the ribs.

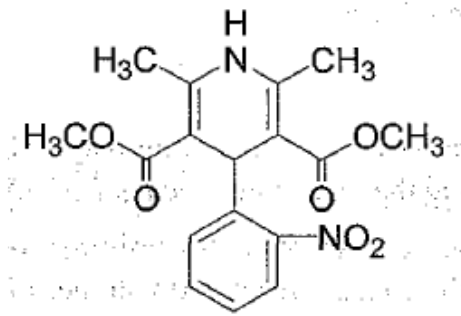
Digital anomalies and malformation of extremities are possibly a result of compromised uterine blood flow but also been observed in animals treated with nifedipine solely after the end of the organogenesis period.

Nifedipine administration was associated with a variety of embryotoxic, placentotoxic and fetotoxic effects, including stunted fetuses (rats, mice, rabbits), small placentas and underdeveloped chorionic villi (monkeys), embryonic and fetal deaths (rats, mice, rabbits) and prolonged pregnancy/decreased neonatal survival (rats; not evaluated in other species). The risk to humans cannot be ruled out if a sufficiently high systemic exposure is achieved, however, all of the doses associated with the teratogenic, embryotoxic or fetotoxic effects in animals were maternally toxic and were several times the recommended maximum dose for humans.

In in-vitro and in-vivo tests, nifedipine has not been associated with mutagenic properties

7. Description

Nifedipine is dimethyl 1,4-dihydro-2,6-dimethyl- 4-(2-nitrophenyl) pyridine-3,5-dicarboxylate. The chemical Structure is:



The molecular formula of Nifedipine is $C_{17}H_{18}N_2O_6$ and the molecular weight is 346.3 g/mol. Nifedipine is a yellow, crystalline powder, readily affected by exposure to light. It is freely soluble in acetone and in chloroform; sparingly soluble in ethanol; practically insoluble in water.

CALCIGARD-10 RETARD

Brick red colour, round, biconvex, film coated tablets with bisecting line on one side and plain on other side.

The Excipients used are MCC, Corn Starch, Glyceryl Dibehenate, Polyvinyl Pyrrolidone (K30), Polysorbate 80, Methanol, Isopropyl Alcohol, Colloidal Silicon Dioxide, Talc, Methylene Chloride, Hydroxy Propyl Methyl Celu., Titanium Dioxide, Propylene Glycol, Ferric Oxide red.

CALCIGARD RETARD

Brown coloured, round, biconvex, film coated tablets with bisecting line on one side and plain on other side.

The Excipients used are MCC, Corn Starch, Glyceryl Dibehenate, Polyvinyl Pyrrolidone (K30), Polysorbate 80, Methanol, Isopropyl Alcohol, Colloidal Silicon Dioxide, Talc, Methanol, Methylene Chloride, Hydroxy Propyl Methyl Celu., Titanium Dioxide, Propylene Glycol, Pigment Blend,.

8. Pharmaceutical particulars

8.1. Incompatibilities

Not applicable

8.2. Shelf-life

Do not use it later than the date of expiry.

8.3. Packaging information

Calcigard-10 Retard and Calcigard Retard is available in 12 composite packs of 5x15 tablets each..

8.4. Storage and handing instructions

Store at a temperature not exceeding 30°C, Protected from light and moisture. Keep all medicines out of reach of children.

9. Patient Counselling Information

Ask the patients to inform the treating physicians in case of any of the below:

- Have any allergies

- Have kidney or liver problems
- Are pregnant or plan to become pregnant
- Are breastfeeding or plan to breastfeed
- Have any serious illness
- Are taking any medicines (prescription, over the counter, vitamins, or herbal products)

10. Details of manufacturer

Torrent Pharmaceuticals Ltd.
32 No, Middle Camp, NH-10,
East District, Gangtok, Sikkim-737 135

11. Details of permission or licence number with date

M/563/2010 issued on 06.12.2021

12. Date of revision

MAY-2026

MARKETED BY

TORRENT
PHARMA

TORRENT PHARMACEUTICALS LTD.

IN/CALCIGARD- 10 RETARD, CALCIGARD RETARD 20 mg/MAY 2026/04/PI