

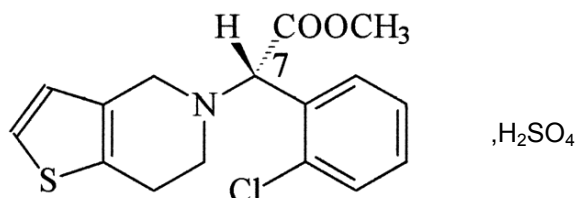
APO-CLOPIDOGREL TABLETS

NAME OF THE MEDICINE

Clopidogrel hydrogen sulphate.

Chemical Name: methyl (+)-(S)- α -(2-chlorophenyl)-6,7-dihydrothieno[3,2-c] pyridine-5(4H)-acetate sulphate (1:1)

Structural Formula:



Molecular Formula: $C_{16}H_{16}ClNO_2S \cdot H_2SO_4$

Molecular Weight: 419.9

CAS Registry Number: 120202-66-6 (clopidogrel hydrogen sulfate) & 113 665-84-2 (clopidogrel base)

DESCRIPTION

Clopidogrel hydrogen sulfate is a white to off-white powder. It is practically insoluble in water at neutral pH but freely soluble at pH 1. It is freely soluble in methanol, sparingly soluble in methylene chloride and is practically insoluble in ethyl ether. It has a specific optical rotation of about +56°.

PHARMACOLOGY

Pharmacodynamics

Clopidogrel is a specific and potent inhibitor of platelet aggregation. Platelets have an established role in the pathophysiology of atherosclerotic disease and thrombotic events. Long term use of anti-platelet drugs has shown consistent benefit in the prevention of ischaemic stroke, myocardial infarction and vascular death in patients at increased risk of such outcomes, including those with established atherosclerosis or a history of atherothrombosis.

Clopidogrel selectively inhibits the binding of adenosine diphosphate (ADP) to its platelet receptor, and the subsequent ADP-mediated activation of the GPIIb/IIIa complex, thereby inhibiting platelet aggregation.

Biotransformation of clopidogrel is necessary to produce inhibition of platelet aggregation. The active metabolite, a thiol derivative, is formed by oxidation of clopidogrel to 2-oxoclopidogrel and subsequent hydrolysis. The active thiol metabolite, which has been isolated *in vitro*, binds rapidly and irreversibly to platelet ADP receptors, P2Y₁ 2, thus inhibiting platelet aggregation.

Clopidogrel also inhibits platelet aggregation induced by other agonists by blocking the amplification of platelet activation by released ADP. Due to the irreversible binding, platelets exposed are affected for the remainder of their lifespan and recovery of normal platelet function occurs at a rate consistent with platelet turnover (approximately 7 days).

Statistically significant and dose-dependent inhibition of platelet aggregation was noted 2 hours after single oral doses of clopidogrel. Repeated doses of 75 mg per day produced substantial inhibition of ADP-induced platelet aggregation from the first day; this increased progressively and reached steady

state between Day 3 and Day 7. At steady state, the average inhibition level observed with a dose of 75 mg per day was between 40% and 60%. Platelet aggregation and bleeding time gradually returned to baseline values, generally within 7 days after treatment was discontinued.

Pharmacokinetics

After repeated oral doses of 75 mg per day, a single oral dose of clopidogrel is rapidly absorbed. However, plasma concentrations of the parent compound are very low and below the quantitation limit (0.00025 mg/L) beyond 2 hours.

Absorption is at least 50%, based on urinary excretion of clopidogrel metabolites.

Clopidogrel is extensively metabolised by the liver and the main metabolite, which is inactive, is the carboxylic acid derivative which represents about 85% of the circulating compound in plasma. Peak plasma levels of this metabolite (approx. 3 mg/L after repeated 75 mg oral doses) occurred approximately 1 hour after dosing.

The kinetics of the main circulating metabolite were linear (plasma concentrations increased in proportion to dose) in the dose range of 50 to 150 mg of clopidogrel.

Clopidogrel and the main circulating metabolite bind reversibly *in vitro* to human plasma proteins (98% and 94% respectively). The binding is non saturable *in vitro* over a wide concentration range.

Following an oral dose of ¹⁴C-labelled clopidogrel in humans, approximately 50% was excreted in the urine and approximately 46% in the faeces in the 120 hour interval after dosing. The elimination half-life of the main circulating metabolite was 8 hours after single and repeated administration.

Plasma concentrations of the main circulating metabolite were significantly higher in elderly subjects (≥ 75 years) as compared to young healthy volunteers. However, these higher plasma levels were not associated with differences in platelet aggregation and bleeding time.

Plasma levels of the main circulating metabolite were lower in subjects with severe renal disease (creatinine clearance from 5 to 15 mL/min) compared to subjects with moderate renal disease (creatinine clearance from 30 to 60 mL/min) and healthy subjects, after repeated doses of 75 mg/day.

Although inhibition of ADP-induced platelet aggregation was lower (25%) than that observed in healthy subjects, the prolongation of bleeding was similar to that seen in healthy subjects receiving 75 mg of clopidogrel per day.

Administration of a single dose of 75mg clopidogrel to healthy subjects under fasting conditions achieved a mean peak plasma concentration of clopidogrel of 605.65pg/mL within 0.76 hours for clopidogrel and 635.8 1pg/mL within 0.90 hours for a reference clopidogrel film-coated tablet product. The mean $AUC_{0-\infty}$ was 978.80pg'h/mL for clopidogrel and 1067.41pg'h/mL for a reference clopidogrel film-coated tablet product. The elimination half-life of clopidogrel was 4.5 hours after single administration of clopidogrel.

Special Population

Geriatric Patients

Plasma concentrations of the main circulating metabolite are significantly higher in the elderly (≥ 75 years) compared to young healthy volunteers but these higher plasma levels were not associated with differences in platelet aggregation and bleeding time. No dosage adjustment is needed for the elderly.

Renal Impairment

After repeated doses of clopidogrel 75 mg per day, plasma levels of the main circulating metabolite were lower in patients with severe renal impairment (creatinine clearance from 5 to 15 mL/min) compared to subjects with moderate renal impairment (creatinine clearance 30 to 60 mL/min) or healthy subjects.

Although inhibition of ADP-induced platelet aggregation was lower (25%) than that observed in healthy volunteers, the prolongation of bleeding time was similar in healthy volunteers receiving clopidogrel 75 mg per day. No dosage adjustment is needed in renally impaired patients. However, experience with

clopidogrel is limited in patients with severe renal impairment. Therefore clopidogrel should be used with caution in this population.

Gender

No significant difference was observed in the plasma levels of the main circulating metabolite between males and females. In a small study comparing men and women, less inhibition of ADP-induced platelet aggregation was observed in women, but there was no difference in prolongation of bleeding time. In the large, controlled clinical study (Clopidogrel vs. Aspirin in Patients at Risk of Ischemic Events; CAPRIE), the incidence of clinical outcome events, other adverse clinical events, and abnormal clinical laboratory parameters was similar in men and women.

Race

Pharmacokinetic differences due to race have not been studied.

CLINICAL TRIALS

The safety and efficacy of clopidogrel in preventing vascular ischaemic events has been evaluated in the CAPRIE study, a double-blind clinical trial comparing clopidogrel to aspirin. In addition, three other studies (CURE, CLARITY and COMMIT) have been conducted for unapproved indications.

Myocardial Infarction or Stroke, or Established Peripheral Arterial Disease

The CAPRIE study included 19,185 patients with established atherosclerosis or history of atherothrombosis as manifested by myocardial infarction, ischaemic stroke or peripheral arterial disease. Patients were randomised to clopidogrel 75 mg/day or aspirin 325 mg/day, and were followed for 1 to 3 years.

The trial's primary outcome was the time to first occurrence of new ischaemic stroke (fatal or not), new myocardial infarction (fatal or not), or other vascular death. Deaths not easily attributable to nonvascular causes were all classified as vascular.

Table 1

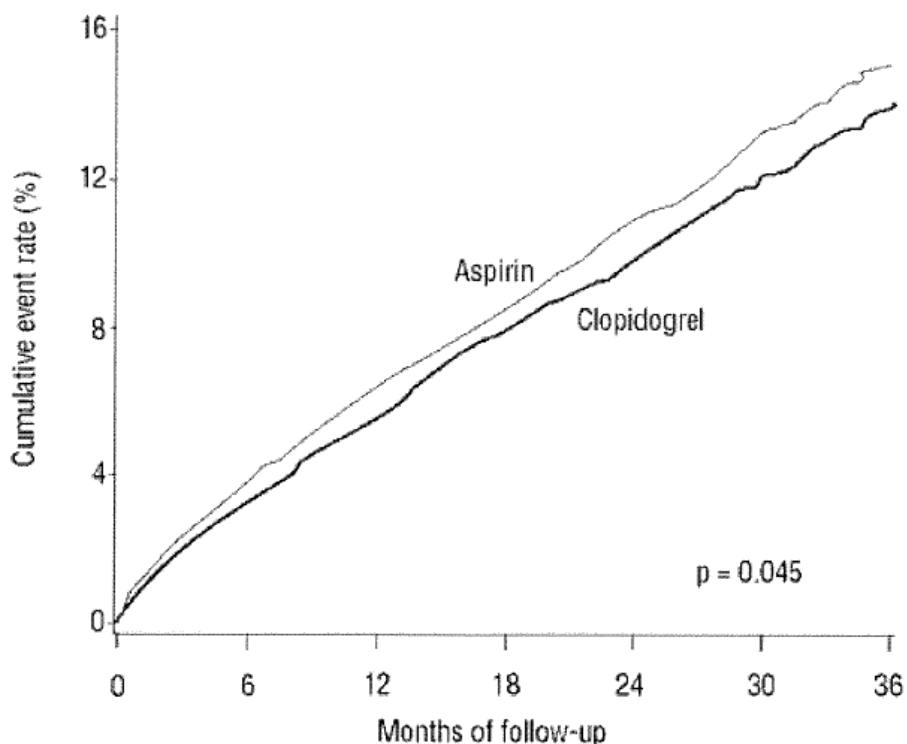
Clopidogrel – Outcome Events of the Primary Analysis

Outcome	Clopidogrel (n = 9,599)	Aspirin (n = 9,586)
Ischaemic stroke *	438 (4.56%)	461 (4.81%)
Myocardial infarction *	275 (2.86%)	333 (3.47%)
Other vascular death	226 (2.35%)	226 (2.36%)
Total	939 (9.78%)	1020 (10.64%)

* Fatal or not

As shown in Table 1, clopidogrel was associated with a lower incidence of outcome events of every kind. The overall risk reduction (9.78% versus 10.64%) was 8.7%, $p = 0.045$. Similar results were obtained when all-cause mortality and all-cause strokes were counted instead of vascular mortality and ischaemic strokes (risk reduction 6.9%). In patients who survived an on-study stroke or myocardial infarction, the incidence of subsequent events was again lower in the clopidogrel group.

The curves showing the overall event rate are shown in Figure 1. The event curves separated early and continued to diverge over the 3-year follow-up period.

Figure 1**Clopidogrel – Fatal or Non-Fatal Vascular Events****INDICATIONS**

- Prevention of vascular ischaemia associated with atherothrombotic events (myocardial infarction, stroke and vascular death) in patients with history of symptomatic atherosclerotic disease.

CONTRAINDICATIONS

- Hypersensitivity to clopidogrel or any component of the excipients.
- Severe liver impairment.
- Active pathological bleeding such as peptic ulcer and intracranial haemorrhage.
- Breastfeeding (see **PRECAUTIONS**, Use in Pregnancy and Use in Lactation).

PRECAUTIONS**General**

As with the other anti-platelet agents, clopidogrel prolongs bleeding time and should be used with caution in patients who may be at risk of increased bleeding from trauma, surgery or other pathological conditions, as follows.

- If a patient is to undergo elective surgery and an anti-platelet effect is not desired, clopidogrel should be discontinued at least 5 days prior to surgery.
- If the patient is at high risk of ophthalmic bleeding due to intraocular lesions, clopidogrel should be used with extra caution.
- Although clopidogrel has shown a lower incidence of gastrointestinal bleeding compared to aspirin in

a large controlled clinical trial (CAPRIE), the drug should be used with caution in patients who have lesions with a propensity to bleed. Drugs that might induce such lesions (such as aspirin and NSAIDs) should be used with caution in patients taking clopidogrel (see **PRECAUTIONS**, Interactions with Other Medicines).

- Patients should be told that it may take longer than usual for bleeding to stop when they take clopidogrel, and that they should report any unusual bleeding (site or duration) to their physician. Patients should inform physicians and dentists that they are taking clopidogrel before any surgery is scheduled and before any new drug is taken.
- In patients with recent transient ischaemic attack or stroke who are at risk of recurrent ischaemic events, the combination of aspirin and clopidogrel has been shown to increase major bleeding.

Coronary Artery Bypass Surgery

When coronary artery bypass surgery is to be performed, clopidogrel should be suspended at 5 days before surgery to reduce the risk of bleeding (see **ADVERSE EFFECTS**).

Pharmacogenetics

Based on literature data, patients with genetically reduced CYP2C19 function have lower systemic exposure to the active metabolite of clopidogrel and diminished antiplatelet responses, and generally exhibit higher cardiovascular event rates following myocardial infarction than do patients with normal CYP2C19 function.

Renal Impairment

Experience with clopidogrel is limited in patients with severe renal impairment. Therefore clopidogrel should be used with caution in this population.

Hepatic Impairment

Experience with clopidogrel is limited in patients with moderate hepatic disease who may have bleeding diatheses. Clopidogrel should therefore be used with caution in this population.

In the CAPRIE study, it was not mandatory to discontinue study medication in the case of an acute outcome event (acute myocardial infarction, ischaemic stroke or lower extremity amputation) and the patients had a favourable outcome as compared to the aspirin group.

In view of the lack of data, clopidogrel cannot be recommended in acute ischaemic stroke (less than 7 days).

Haematological

Thrombotic Thrombocytopenic Purpura (TTP) has been reported very rarely following the use of clopidogrel, sometimes after a short exposure. It is characterised by thrombocytopenia and microangiopathic haemolytic anaemia associated with either neurological findings, renal dysfunction or fever. TTP is a potential fatal condition requiring prompt treatment, including plasmapheresis (plasma exchange).

Thrombocytopenia, neutropenia, aplastic anaemia and pancytopenia have also been reported very rarely in patients taking clopidogrel (see **ADVERSE EFFECTS**).

Due to the risk of bleeding and haematological undesirable effects, blood cell count determination and/or other appropriate testing should be promptly considered whenever clinical symptoms suggestive of bleeding arise during the course of treatment. As with other anti-platelet agents, clopidogrel should be used with caution in patients who may be at risk of increased bleeding from trauma, surgery or other pathological conditions and in patients receiving treatment with aspirin, non-steroidal anti-inflammatory drugs, heparin, glycoprotein IIb/IIIa inhibitors or thrombolytics. Patients should be followed carefully for any signs of bleeding including occult bleeding, especially during the first weeks of treatment and/or after invasive cardiac procedures or surgery.

Effects on Fertility

Clopidogrel was found to have no effect on fertility of male and female rats at oral doses up to 400mg/kg per day and was not teratogenic in rats (up to 500mg/kg per day) and rabbits (up to 300mg/kg per day).

Use in Pregnancy (Category B1)

Category B1 - definition

Drugs which have been taken by only a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human foetus having been observed. Studies in animals have not shown evidence of an increased occurrence of foetal damage.

Clopidogrel and/or its metabolites are known to cross the placenta in pregnant rats and rabbits. However, teratology studies in rats and rabbits at doses up to 500 mg and 300 mg/kg/day PO respectively, revealed no evidence of embryotoxicity or teratogenicity.

There are no adequate and well-controlled studies in pregnant women.

Because animal reproduction studies are not always predictive of a human response, clopidogrel should not be used in women during pregnancy.

Use in Lactation

Studies in rats have shown that clopidogrel and/or its metabolites are excreted in breast milk (see **CONTRAINDICATIONS**).

Carcinogenicity

There was no evidence of carcinogenic effects when clopidogrel was given in the diet for 78 weeks to mice and 104 weeks to rats at doses up to 77mg/kg per day (representing an exposure \approx 18 times the anticipated patient exposure, based on plasma AUC for the main circulating metabolite in elderly subjects).

Genotoxicity

Clopidogrel was not genotoxic in four *in vitro* tests (Ames test, DNA-repair test in rat hepatocytes, gene mutation assay in Chinese hamster fibroblasts and metaphase chromosome analysis of human lymphocytes) and in one *in vivo* test (micronucleus test by the oral route in mice).

Interactions with Other Medicines

Aspirin

A pharmacodynamic interaction between clopidogrel and aspirin is possible, leading to increased risk of bleeding (see also **PRECAUTIONS**, General).

Injectable Anticoagulants

A pharmacodynamic interaction between clopidogrel and heparin is possible, leading to increased risk of bleeding. Therefore, concomitant use should be undertaken with caution.

Anti-Platelet Agents (such as Eptifibatide, Ticlopidine, Tirofiban)

The effects of clopidogrel and other drugs which inhibit platelet aggregation may be additive, leading to an increased risk of bleeding.

Glycoprotein IIb / IIIa Inhibitors

Clopidogrel should be used with caution in patients who may be at risk of increased bleeding from trauma, surgery or other pathological conditions that receive concomitant glycoprotein IIb/IIIa inhibitors.

Thrombolytics

The safety of the concomitant administration of clopidogrel, fibrin or non-fibrin specific thrombolytic agents and heparins was assessed in patients with acute myocardial infarction. The incidence of clinically significant bleeding was similar to that observed when thrombolytic agents and heparins are co-administered with aspirin. The safety of concomitant administration of clopidogrel with

thrombolytic agents has not been formally established and should be undertaken with caution.

Oral Anticoagulants

The concomitant administration of clopidogrel with warfarin is not recommended since it may increase the intensity of bleeding.

Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)

In a clinical study conducted in healthy volunteers, the concomitant administration of clopidogrel and naproxen increased occult gastrointestinal blood loss. However, due to the lack of interaction studies with other NSAIDs, it is presently unclear whether there is an increased risk of gastrointestinal bleeding with all NSAIDs. Consequently, there is a potential increased risk of gastrointestinal bleeding and NSAIDs and clopidogrel should be co-administered with caution (see **PRECAUTIONS**).

Drugs Metabolised by Cytochrome P450 2C9

At high concentrations *in vitro*, clopidogrel inhibits cytochrome P450 (2C9). Accordingly, clopidogrel may interfere with the metabolism of phenytoin, tamoxifen, tolbutamide, warfarin, fluvastatin, and many nonsteroidal anti-inflammatory agents, but there are no data with which to predict the magnitude of these interactions. Caution should be used when any of these drugs is co-administered with clopidogrel.

Other Concomitant Therapy

Since clopidogrel is metabolised to its active metabolite partly by CYP2C19, use of drugs that inhibit the activity of this enzyme would be expected to result in reduced drug levels of the active metabolite of clopidogrel and a reduction in clinical efficacy. Concomitant use of drugs that inhibit CYP2C19 (e.g. omeprazole) should be discouraged.

A number of other clinical studies have been conducted with clopidogrel and other concomitant medications to investigate the potential for pharmacodynamic and pharmacokinetic interactions.

No clinically significant pharmacodynamic interactions were observed when clopidogrel was co-administered with atenolol, nifedipine, or both atenolol and nifedipine.

Furthermore, the pharmacodynamic activity of clopidogrel was not significantly influenced by the co-administration of phenobarbital, cimetidine or oestrogen.

The pharmacokinetics of digoxin or theophyllin were not modified by the co-administration of clopidogrel.

Antacids did not modify the extent of clopidogrel absorption.

In addition to the above specific interaction studies, patients entered into clinical trials with clopidogrel received a variety of concomitant medications including diuretics, beta-blocking agents, angiotensin converting enzyme inhibitors, calcium antagonists, cholesterol lowering agents, coronary vasodilators, anti-diabetic agents (including insulin), anti-epileptic agents, GPIIb/IIIa antagonists and hormone replacement therapy without evidence of clinically significant adverse interactions.

Effect on Ability to Drive and Use Machines

No impairment of driving or psychometric performance was observed following clopidogrel administration.

ADVERSE EFFECTS

Clinical Studies Experience

Clopidogrel has been evaluated for safety in more than 42,000 patients, including over 9,000 patients treated for 1 year or more. The clinically relevant adverse events observed in CAPRIE are discussed below.

Clopidogrel was well tolerated compared to aspirin in a large controlled clinical trial (CAPRIE). The overall tolerability of clopidogrel in this study was similar to aspirin, regardless of age, gender and race

Haemorrhagic

In CAPRIE the overall incidence of any bleeding in patients treated with either clopidogrel or aspirin was

similar (9.3%). The incidence of severe bleeds was 1.4% in the clopidogrel group and 1.6% in the aspirin group.

Gastrointestinal haemorrhage was significantly less frequent with clopidogrel (1.99%) compared to aspirin (2.66%). The incidence of intracranial haemorrhage was 0.35% for clopidogrel compared to 0.49% for aspirin.

Haematological Disorders

In CAPRIE, patients were intensively monitored for thrombocytopenia and neutropenia.

Clopidogrel was not associated with an increase in the incidence of thrombocytopenia compared to aspirin. Very rare cases of platelet count $\leq 30 \times 10^9/L$ have been reported.

Severe neutropenia ($< 0.45 \times 10^9/L$) was observed in four patients (0.04%) who received clopidogrel and in two patients who received aspirin. Two of the 9,599 patients who received clopidogrel and none of the patients who received aspirin had a neutrophil count of zero. One of the clopidogrel treated patients was receiving cytostatic chemotherapy, and another recovered and returned to the trial after only temporarily interrupting treatment with clopidogrel.

Although the risk of myelotoxicity with clopidogrel appears to be quite low, this possibility should be considered when a patient receiving clopidogrel demonstrates fever or other signs of infection.

Gastrointestinal

In CAPRIE overall the incidence of gastrointestinal events (e.g. abdominal pain, dyspepsia, gastritis and constipation) in patients receiving clopidogrel was significantly lower than in those receiving aspirin. The incidence of peptic, gastric or duodenal ulcers was 0.68% for clopidogrel and 1.15% for aspirin. Cases of diarrhoea were reported at a higher frequency in the clopidogrel group (4.46%) compared to the aspirin group (3.36%).

Rash

In CAPRIE, there were significantly more patients with rash in clopidogrel group (4.2%) compared to the aspirin group (3.5%).

Treatment Discontinuation

In the clopidogrel and aspirin treatment groups of the CAPRIE study, discontinuation due to adverse events occurred in approximately 13% of patients after 2 years of treatment. Adverse events occurring $\geq 2.5\%$ of patients on clopidogrel in the CAPRIE controlled clinical trial are shown in Table 2 regardless of relationship to clopidogrel. The median duration of therapy was 20 months, with a maximum of 3 years.

Table 2**Adverse Events Occurring in $\geq 2.5\%$ of Patients Receiving Clopidogrel**

Body system / Event	CAPRIE % incidence (% discontinuation)	
	Clopidogrel n = 9,599	Aspirin n = 9,586
Body as a whole – general disorders		
Chest pain	8.3 (0.2)	8.3 (0.3)
Accidental / inflicted injury	7.9 (0.1)	7.3 (0.1)
Influenza-like symptoms	7.5 (< 0.1)	7.0 (< 0.1)
Pain	6.4 (0.1)	6.3 (0.1)
Fatigue	3.3 (0.1)	3.4 (0.1)
Cardiovascular disorders - general		
Hypertension	4.3 (< 0.1)	5.1* (< 0.1)
Central and peripheral nervous system disorders		
Headache	7.6 (0.3)	7.2 (0.2)
Dizziness	6.2 (0.2)	6.7 (0.3)
Gastrointestinal		
Abdominal pain	5.6 (0.7)	7.1* (1.0)
Dyspepsia	5.2 (0.6)	6.1* (0.7)
Diarrhoea	4.5* (0.4)	3.4 (0.3)
Nausea	3.4 (0.5)	3.8 (0.4)
Metabolic and nutritional disorders		
Hypercholesterolaemia	4.0 (0)	4.4 (< 0.1)
Musculoskeletal system disorders		
Arthralgia	6.3 (0.1)	6.2 (0.1)
Back pain	5.8 (0.1)	5.3 (< 0.1)
Myo-, endo-, pericardial and valve disorders		
Angina pectoris	10.1 (0.6)	10.7 (0.4)
Coronary artery disorder	6.2 (0.3)	5.6 (0.3)
Platelet, bleeding and clotting disorders		
Purpura	5.3* (0.3)	3.7 (0.1)
Epistaxis	2.9 (0.2)	2.5 (0.1)
Psychiatric disorders		
Depression	3.6 (0.1)	3.9 (0.2)
Resistance mechanism disorders		
Infection	4.7 (< 0.1)	4.2 (0.1)
Respiratory system disorders		
Upper respiratory tract infection	8.7 (< 0.1)	8.3 (< 0.1)
Dyspnoea	4.5 (0.1)	4.2 (0.1)
Rhinitis	4.2 (0.1)	4.2 (< 0.1)
Bronchitis	3.7 (0.1)	3.7 (0)
Coughing	3.1 (< 0.1)	2.7 (< 0.1)
Skin and appendage disorders		
Rash	4.2* (0.5)	3.5 (0.2)
Pruritus	3.3* (0.3)	1.6 (0.1)
Urinary system disorders		
Urinary tract infection	3.1 (0)	3.5 (0.1)
Vascular (extracardiac) disorders		
Claudication intermittent	3.8 (0.2)	3.8 (0.2)
Peripheral ischaemia	3.2 (0.2)	3.4 (0.2)
Cerebrovascular disorder	2.6 (0.3)	2.9 (0.3)

* indicates statistical significance ($p \leq 0.05$)

Incidence of discontinuation, regardless of relationship to therapy, is shown in parentheses.

Clinically relevant adverse reactions not listed above pooled from CAPRIE, CURE, CLARITY and COMMIT studies with an incidence of $\geq 0.1\%$ as well as all serious and clinically relevant adverse reactions are listed below according to the World Health Organisation classification. Their frequency is defined using the following conventions: common: $> 1/100$ (1%) and $< 1/10$ (10%); uncommon: $2/1000$ (0.2%) and $< 1/100$ (1%) and rare: $2/10000$ (0.02%) and $< 1/1000$ (0.1%).

Central and Peripheral Nervous System Disorders

Uncommon: Paraesthesia

Rare: Vertigo

Gastrointestinal System Disorders

Uncommon: Flatulence, constipation, vomiting, gastric, peptic or duodenal ulcer

Platelet, Bleeding and Clotting Disorders

Uncommon: Bleeding time increased

White Cell and RES Disorders

Uncommon: Leucopenia and eosinophilia

Post-Marketing Experience

The following have been reported spontaneously from worldwide post-marketing experience:

Note:	Very common:	$\geq 1/10$ ($\geq 10\%$)
	Common:	$\geq 1/100$ and $< 1/10$ ($\geq 1\%$ and $< 10\%$)
	Uncommon:	$\geq 1/1,000$ and $< 1/100$ ($\geq 0.1\%$ and $< 1.0\%$)
	Rare:	$\geq 1/10,000$ and $< 1/1000$ ($\geq 0.01\%$ and $< 0.1\%$)
	Very rare:	$< 1/10,000$ ($< 0.01\%$)

Musculoskeletal, Connective and Bone

– Very rare: arthralgia, arthritis, myalgia

Immune System Disorders

– Very rare: anaphylactoid reactions, serum sickness

Vascular Disorders

– Very rare: vasculitis, hypotension

Blood and Lymphatic System Disorders

- Very rare: serious cases of bleeding, mainly skin, musculoskeletal (haemarthrosis, haematoma), eye (conjunctival, ocular, retinal) and respiratory tract bleeding (haemoptysis, pulmonary haemorrhage), epistaxis, haematuria and haemorrhage of operative wound. Fatal haemorrhage, including intracranial, gastrointestinal and retroperitoneal haemorrhage. Cases of serious haemorrhage have been reported in patients taking clopidogrel concomitantly with aspirin or clopidogrel with aspirin and heparin (see **PRECAUTIONS**, Interactions with Other Medicines).
- Very rare: cases of thrombotic thrombocytopenic purpura (TTP) have been reported.
- Very rare: aplastic anaemia, neutropenia, pancytopenia, agranulocytosis, granulocytopenia, anaemia
- Uncommon: eosinophilia, leucopenia, decreased neutrophils, decreased platelets, increased bleeding time.

Skin and Subcutaneous Tissue Disorders

- Very rare: maculopapular or erythematous rash, urticaria, pruritus, angioedema, bullous dermatitis (erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis), eczema, lichen planus.

Psychiatric

- Very rare: confusion, hallucinations

Nervous System Disorders

- Very rare: taste disturbances

Hepatobiliary Disorders

- Very rare: hepatitis, acute liver failure

Gastrointestinal Disorders

- Very rare: colitis (including ulcerative or lymphocytic colitis), pancreatitis, stomatitis

Respiratory, Thoracic and Mediastial Disorders

- Very rare: bronchospasm, interstitial pneumonitis

Renal and Urinary Disorders

- Very rare: glomerulopathy

Investigations

- Very rare: blood creatinine increase, abnormal liver function tests

General Disorders and Administration Site Conditions

- Very rare: fever, syncope.

DOSAGE AND ADMINISTRATION

Clopidogrel should be taken once a day with or without food.

Adults

Generally, clopidogrel should be given as a single daily dose of 75 mg.

No dosage adjustment is necessary for either elderly patients or patients with renal impairment (see **PHARMACOLOGY**, Pharmacokinetics).

Children and Adolescents

Safety and efficacy in subjects below the age of 18 have not been established.

OVERDOSAGE

Contact the Poisons Information Centre on 13 11 26 (Australia) for advice on the management of overdose.

In animals, clopidogrel at single oral doses $\geq 1,500$ mg/kg caused necrotic-haemorrhagic gastritis, oesophagitis and enteritis in mice, rats and baboons. Necrotic tubulopathy and tubulointerstitial nephritis were also noted in mice.

Overdose following clopidogrel administration may lead to prolonged bleeding time and subsequent bleeding complications. Appropriate therapy should be considered if bleeding is observed. No antidote to the pharmacological activity of clopidogrel has been found. If prompt correction of prolonged bleeding time is required, platelet transfusion may reverse the effects of clopidogrel.

PRESENTATION AND STORAGE CONDITIONS

APO-Clopidogrel 75 mg Tablets: Reddish brown, round biconvex film-coated tablets, imprinted “APO” on one side and “CL” over “75” on the other side.

Blister packs of 28 tablets: AUST R 129641.

Bottles of 28, 100, 500 and 1000 tablets: AUST R 129642.

Not all strengths, pack types and/or pack sizes may be available.

APO-Clopidogrel tablets are intended for oral administration. Each tablet contains 75 mg clopidogrel (as clopidogrel hydrogen sulfate), as the active ingredient. In addition, each tablet contains the following inactive ingredients: lactose anhydrous, methylcellulose, crospovidone, silica colloidal anhydrous, zinc stearate, hydroxypropylcellulose, hypromellose, macrogol 8000, titanium dioxide and iron oxide red (CI77491).

Storage

Store below 25°C. Store in original package.

NAME AND ADDRESS OF THE SPONSOR

Apotex Pty Ltd
66 Waterloo Road
North Ryde NSW 2113
Australia

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POISONS SCHEDULE OF THE MEDICINE

S4 – Prescription Only Medicine.

Date of TGA approval: 9 February 2010

Date of most recent amendment: 1 September 2010