## **Summary of Product Characteristics for Pharmaceutical Products**

## 1. Name of the medicinal product:

DORZAWELL -T (Dorzolamide and Timolol Eye drops solution (2 % and 0.5%)

# 2. Qualitative and quantitative composition

Each ml contains; Dorzolamide Hydrochloride 22.260 mg equivalent to Dorzolamide 20.00 mg and Timolol Maleate 6.830 mg equivalent to Timolol 5.00 mg.

# Excipients with known effect

Each ml of solution contains 0.075 mg benzalkonium chloride (as 0.15 mg benzalkonium chloride solution 50%).

For the full list of excipients, see section 6.1.

#### 3. Pharmaceutical form

Eye drops. Slightly opalescent, nearly colorless, slightly viscous solution.

## 4. Clinical particulars

# 4.1 Therapeutic indications

Dorzolamide/Timolol is indicated in the treatment of elevated intraocular pressure (IOP) in patients with open-angle glaucoma or pseudo-exfoliative glaucoma when topical beta-blocker monotherapy is not sufficient.

# 4.2 Posology and method of administration Posology

The dose is one drop of Dorzolamide/Timolol in the (conjunctival sac of the) affected eye(s) two times daily.

If another topical ophthalmic medicinal product is being used, Dorzolamide/Timolol and the other agent should be administered at least ten minutes apart.

Patients should be instructed to wash their hands before use and avoid allowing the tip of the container to come into contact with the eye or surrounding structures.

In order to secure correct dose - the dropper tip should not be enlarged.

Patients should also be instructed that ocular solutions, if handled improperly, can become contaminated by common bacteria known to cause ocular infections. Serious damage to the eye and subsequent loss of vision may result from using contaminated solutions.

Patients should be informed of the correct handling of the Dorzolamide/Timolol bottles.

# Paediatric population

Efficacy in paediatric patients has not been established.

Safety in paediatric patients below the age of 2 years has not been established. (For information regarding safety in paediatric patients  $\geq 2$  and < 6 years of age, see section 5.1).

#### Method of administration

- 1. The tamper-proof seal on the bottle neck must be unbroken before the product is being used for the first time. A gap between the bottle and the cap is normal for an unopened bottle.
- 2. The cap of the bottle should be taken off.
- 3. The patient's head must be tilted back and the lower eyelid must be pulled gently down to form a small pocket between the eyelid and the eye.
- 4. The bottle should be inverted and squeezed until a single drop is dispensed into the eye. THE EYE OR EYELID MUST NOT BE TOUCHED WITH THE DROPPER TIP.
- 5. When using nasolacrimal occlusion or closing the eyelids for 2 minutes, the systemic absorption is reduced. This may result in a decrease in systemic side effects and an increase in local activity.
- 6. Steps 3, 4 & 5 should be repeated with the other eye if it is necessary.
- 7. The cap must be put back on and the bottle must be closed straight after it has been used.

When using nasolacrimal occlusion or closing the eyelids for 2 minutes, the systemic absorption is reduced. This may result in a decrease in systemic adverse reactions and an increase in local activity.

#### 4.3 Contraindications

- Dorzolamide/Timolol is contraindicated in patients with:
  - o reactive airway disease, including bronchial asthma or a history of bronchial asthma, or severe chronic obstructive pulmonary disease
  - sinus bradycardia, sick sinus syndrome, sino-atrial block, secondor third-degree atrioventricular block not controlled with pacemaker, overt cardiac failure, cardiogenic shock
  - o severe renal impairment (CrCl < 30 ml/min) or hyperchloraemic acidosis
  - o hypersensitivity to the active substances or to any of the excipients listed in section 6.1.
- The above are based on the components and are not unique to the combination.

# 4.4 Special warnings and precautions for use Cardiovascular/Respiratory Reactions

Like other topically applied ophthalmic agents timolol is absorbed systemically. Due to beta-adrenergic component, timolol, the same types of cardiovascular, pulmonary and other adverse reactions seen with systemic beta-adrenergic blocking agents may occur. Incidence of systemic ADRs after topical ophthalmic administration is lower than for systemic administration. To reduce the systemic absorption, see section 4.2.

#### Cardiac disorders

In patients with cardiovascular diseases (e.g. coronary heart disease, Prinzmetal's angina and cardiac failure) and hypotension therapy with beta-blockers should be critically assessed and the therapy with other active substances should be considered. Patients with cardiovascular diseases should be watched for signs of deterioration of these diseases and of adverse reactions.

Due to its negative effect on conduction time, beta-blockers should only be given with caution to patients with first degree heart block.

#### Vascular disorders

Patients with severe peripheral circulatory disturbance/disorders (i.e. severe forms of Raynaud's disease or Raynaud's syndrome) should be treated with caution.

# Respiratory disorders

Respiratory reactions, including death due to bronchospasm in patients with asthma have been reported following administration of some ophthalmic beta-blockers.

Dorzolamide/Timolol should be used with caution, in patients with mild/moderate chronic obstructive pulmonary disease (COPD) and only if the potential benefit outweighs the potential risk.

### *Hepatic impairment*

Dorzolamide/timolol eye drops, solution has not been studied in patients with hepatic impairment and therefore, should be used with caution in such patients.

**Immunology and Hypersensitivity** As with other topically-applied ophthalmic agents, this medicinal product may be absorbed systemically.

Dorzolamide contains a sulfonamido group, which also occurs in sulphonamides. Therefore, the same types of adverse reactions found with systemic administration of sulphonamides may occur with topical administration, including severe reactions such as Stevens-Johnson syndrome and toxic epidermal necrolysis. If signs of serious reactions or hypersensitivity occur, discontinue use of this preparation.

Local ocular adverse reactions, similar to those observed with dorzolamide hydrochloride eye drops, have been seen with dorzolamide/timolol eye drops, solution. If such reactions occur, discontinuation of Dorzolamide/Timolol should be considered.

While taking beta-blockers, patients with a history of atopy or a history of severe anaphylactic reaction to a variety of allergens may be more

reactive to repeated challenge with such allergens and unresponsive to the usual dose of adrenaline used to treat anaphylactic reactions.

# Concomitant therapy

The effect on intraocular pressure or the known effects of systemic betablockade may be potentiated when timolol is given to the patients already receiving a systemic beta-blocking agent. The response of these patients should be closely observed. The use of two topical beta-adrenergic blocking agents is not recommended (see section 4.5).

The use of dorzolamide and oral carbonic anhydrase inhibitors is not recommended.

## Withdrawal of therapy

As with systemic beta-blockers, if discontinuation of ophthalmic timolol is needed in patients with coronary heart disease, therapy should be withdrawn gradually.

#### Additional effects of beta-blockade

# Hypoglycaemia/diabetes

Beta-blockers should be administered with caution in patients subject to spontaneous hypoglycaemia or to patients with labile diabetes, as betablockers may mask the signs and symptoms of acute hypoglycaemia.

Beta-blockers may also mask the signs of hyperthyroidism. Abrupt withdrawal of beta-blocker therapy may precipitate a worsening of symptoms.

# Corneal diseases

Ophthalmic beta-blockers may induce dryness of eyes. Patients with corneal diseases should be treated with caution.

## Surgical anaesthesia

Beta-blocking ophthalmological preparations may block systemic betaagonist effects e.g. of adrenaline. The anaesthesiologist should be informed when the patient is receiving timolol.

Therapy with beta-blockers may aggravate symptoms of myasthenia gravis.

### Additional effects of carbonic anhydrase inhibition

Therapy with oral carbonic anhydrase inhibitors has been associated with urolithiasis as a result of acid-base disturbances, especially in patients with a prior history of renal calculi. Although no acid-base disturbances have been observed with dorzolamide/timolol eye drops, solution, urolithiasis has been reported infrequently. Because Dorzolamide/Timolol contains a topical carbonic anhydrase inhibitor that is absorbed systemically, patients with a prior history of renal calculi may be at increased risk of urolithiasis while using Dorzolamide/Timolol.

#### Other

The management of patients with acute angle-closure glaucoma requires therapeutic interventions in addition to ocular hypotensive agents. Dorzolamide/timolol eye drops, solution has not been studied in patients with acute angle-closure glaucoma.

Corneal oedema and irreversible corneal decompensation have been reported in patients with pre-existing chronic corneal defects and/or a history of intraocular surgery while using dorzolamide. There is an increased potential for developing corneal oedema in patients with low endothelial cell counts. Precautions should be used when prescribing Dorzolamide/Timolol to these groups of patients.

Choroidal detachment has been reported with administration of aqueous suppressant therapies (e.g. timolol, acetazolamide) after filtration procedures.

As with the use of other antiglaucoma medicinal products, diminished responsiveness to ophthalmic timolol maleate after prolonged therapy has been reported in some patients. However, in clinical studies in which 164 patients have been followed for at least three years, no significant difference in mean intraocular pressure has been observed after initial stabilisation.

#### Contact lens use

Dorzolamide/Timolol contains the preservative benzalkonium chloride, which is known to discolour soft contact lenses. Contact lenses should be removed prior to application and wait at least 15 minutes before reinsertion.

Benzalkonium chloride has been reported to cause eye irritation, symptoms of dry eyes and may affect the tear film and corneal surface. Should be used with caution in dry eye patients and in patients where the cornea may be compromised.

Patients should be monitored in case of prolonged use.

#### Paediatric population

See section 5.1.

# 4.5 Interaction with other medicinal products and other forms of interaction

No specific drug interaction studies have been performed.

In clinical studies, dorzolamide/timolol eye drops, solution was used concomitantly with the following systemic medicinal products without evidence of adverse interactions: ACE-inhibitors, calcium channel blockers, diuretics, non-steroidal anti-inflammatory medicinal products including acetylsalicylic acid and hormones (e.g. oestrogen, insulin, thyroxine).

There is a potential for additive effects resulting in hypotension and/or marked bradycardia when ophthalmic beta-blockers solution is administered concomitantly with oral calcium channel blockers, catecholamine-depleting medicinal products or beta-adrenergic blocking agents, antiarrhythmics (including amiodarone), digitalis glycosides, parasympathomimetics, guanethidine, narcotics, and monoamine oxidase (MAO) inhibitors.

Potentiated systemic beta-blockade (e.g. decreased heart rate, depression) has been reported during combined treatment with CYP2D6 inhibitors (e.g. quinidine, fluoxetine, paroxetine) and timolol.

Although Dorzolamide/Timolol alone has little or no effect on pupil size, mydriasis resulting from concomitant use of ophthalmic beta-blockers and adrenaline (epinephrine) has been reported occasionally.

Beta-blockers may increase the hypoglycaemic effect of antidiabetic agents.

Oral beta-adrenergic blocking agents may exacerbate the rebound hypertension which can follow the withdrawal of clonidine.

# 4.6 Pregnancy and Lactation Pregnancy

Dorzolamide/Timolol should not be used during pregnancy.

#### Dorzolamide

No adequate clinical data in exposed pregnancies are available. In rabbits, dorzolamide produced teratogenic effect at maternotoxic doses (see section 5.3).

#### Timolol.

There are no adequate data for the use of timolol in pregnant women. Timolol should not be used during pregnancy unless clearly necessary. To reduce the systemic absorption, see section 4.2.

Epidemiological studies have not revealed malformative effects but show a risk for intrauterine growth retardation when beta-blockers are administered by the oral route. In addition, signs and symptoms of beta-blockade (e.g. bradycardia, hypotension, respiratory distress and hypoglycaemia) have been observed in the neonate when beta-blockers have been administered until delivery. If Dorzolamide/Timolol is administered until delivery, the neonate should be carefully monitored during the first days of life.

#### **Breast-feeding**

It is not known whether dorzolamide is excreted in human milk. In lactating rats receiving dorzolamide, decreases in the body weight gain of offspring were observed. Beta-blockers are excreted in breast milk. However, at therapeutic doses of timolol in eye drops it is not likely that

sufficient amounts would be present in breast milk to produce clinical symptoms of beta-blockade in the infant. To reduce the systemic absorption, see section 4.2.

If treatment with Dorzolamide/Timolol is required, then lactation is not recommended.

## 4.7 Effects on ability to drive and use machines

No studies on the effects on the ability to drive and use machines have been performed. Possible side effects such as blurred vision may affect some patients' ability to drive and/or operate machinery.

### 4.8 Undesirable effects

In clinical studies for dorzolamide/timolol eye drops, solution the observed adverse reactions have been consistent with those that were reported previously with dorzolamide hydrochloride and/or timolol maleate.

During clinical studies, 1,035 patients were treated with dorzolamide/timolol eye drops, solution. Approximately 2.4% of all patients discontinued therapy with this medicinal product because of local ocular adverse reactions, approximately 1.2% of all patients discontinued because of local adverse reactions suggestive of allergy or hypersensitivity (such as lid inflammation and conjunctivitis).

Like other topically applied ophthalmic medicinal products, timolol is absorbed into the systemic circulation. This may cause similar undesirable effects as seen with systemic beta-blocking agents. Incidence of systemic ADRs after topical ophthalmic administration is lower than for systemic administration.

The following adverse reactions have been reported with dorzolamide/timolol eye drops, solution or one of its components either during clinical trials or during post-marketing experience:

[Very common: ( $\geq 1/10$ ), Common: ( $\geq 1/100$  to <1/10), Uncommon: ( $\geq 1/1,000$  to <1/100), Rare: ( $\geq 1/10,000$  to <1/1,000) and Not known (cannot be estimated from the available data)]

System Organ Class (MedDRA)	Formula tion	Very com mon	Commo n	Uncom mon	Rare	Not known**
Immune system disorders	Dorzola mide/ timolol eye drops, solution				signs and symptom s of systemic allergic reactions, including angioede ma, urticaria, pruritus,	

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					rash, anaphyla xis	
	Timolol maleate eye drops, solution				signs and symptom s of allergic reactions including angioede ma, urticaria, localised and generalis ed rash, anaphyla xis	pruritus
Metabolis m and nutrition disorders	Timolol maleate eye drops, solution					hypoglyc aemia
Psychiatr ic disorders	Timolol maleate eye drops, solution			depress ion*	insomnia *, nightmar es*, memory loss	hallucina tion
Nervous system disorders	Dorzola mide hydroch loride eye drops, solution		headach e*		dizziness *, paraesth esia*	
	Timolol maleate eye drops, solution		headach e*	dizzine ss*, syncop e*	paraesth esia*, increase in signs and symptom s of myasthen ia gravis, decrease d libido*, cerebrova scular accident* , cerebral ischaemi a	
Eye disorders	Dorzola mide/ timolol eye	burni ng and	conjunct ival infection , blurred			foreign body sensatio n in eye

	drops, solution	stingi ng	vision, corneal erosion, ocular itching,			
	Dorzola mide hydroch loride eye drops, solution		eyelid inflamm ation*, eyelid irritation *	iridocyc litis*	irritation including redness*, pain*, eyelid crusting*, transient myopia (which resolved upon discontin uation of therapy), corneal oedema*, ocular hypotony *, choroidal detachme nt (following filtration surgery)*	foreign body sensatio n in eye
	Timolol maleate eye drops, solution		signs and sympto ms of ocular irritation includin g blepharit is*, keratitis *, decrease d corneal sensitivit y and dry eyes*	visual disturb ances includi ng refracti ve change s (due to withdra wal of miotic therapy in some cases)*	ptosis, diplopia, choroidal detachme nt following filtration surgery* (see section 4.4)	itching, tearing, redness, blurred vision, corneal erosion
Ear and labyrinth disorders	Timolol maleate eye drops, solution		ary cyco		tinnitus*	
Cardiac disorders	Dorzola mide hydroch					Palpitatio ns,

	loride eye drops, solution				Tachycar dia
	Timolol maleate eye drops, solution		bradyc ardia*	chest pain*, palpitatio n*, oedema*, arrhythm ia*, congestiv e heart failure*, cardiac arrest*, heart block	atriovent ricular block, cardiac failure
Vascular disorders	Timolol maleate eye drops, solution			hypotensi on*, claudicati on, Raynaud' s phenome non*, cold hands and feet*	
	Dorzola mide hydroch loride eye drops, solution				Hyperten sion
Respirato ry, thoracic and mediastin al disorders	Dorzola mide/ timolol eye drops, solution	sinusitis		shortness of breath, respirator y failure, rhinitis, rarely bronchos pasm	dyspnoea
	Dorzola mide hydroch loride eye drops, solution			epistaxis*	dyspnoea
	Timolol maleate eye drops, solution		dyspno ea*	bronchos pasm (predomi nantly in patients with pre-	

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					existing bronchos pastic disease)*, respirator y failure, cough*	
Gastroint estinal disorders	Dorzola mide/ timolol eye drops, solution	dysge usia				
	Dorzola mide hydroch loride eye drops, solution		nausea*		throat irritation, dry mouth*	
	Timolol maleate eye drops, solution			nausea *, dyspep sia*	diarrhoea , dry mouth*	dysgeusi a, abdomin al pain, vomiting
Skin and subcutan eous tissue disorders	Dorzola mide/ timolol eye drops, solution				contact dermatiti s, Stevens- Johnson syndrome , toxic epiderma l necrolysi s	
	Dorzola mide hydroch loride eye drops, solution				rash*	
	Timolol maleate eye drops, solution				alopecia*, psoriasifo rm rash or exacerbat ion of psoriasis*	skin rash
Musculos keletal and connectiv e tissue disorders	Timolol maleate eye drops, solution				systemic lupus erythema tosus	myalgia

Renal and urinary disorders	Dorzola mide/ timolol eye drops, solution		urolithi asis		
Reproduc tive system and breast disorders	Timolol maleate eye drops, solution			Peyronie' s disease*, decrease d libido	sexual dysfuncti on
General disorders and administr ation site condition s	Dorzola mide hydroch loride eye drops, solution	asthenia / fatigue*			
	Timolol maleate eye drops, solution		astheni a/ fatigue*		

<sup>\*</sup>These adverse reactions were also observed with dorzolamide/timolol ophthalmic solution during post-marketing experience.

### Reporting of suspected 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. Healthcare professionals are asked to report any suspected adverse reactions via pharmacy and poisons board, Pharmacovigilance Electronic Reporting System (PvERS) <a href="https://pv.pharmacyboardkenya.org">https://pv.pharmacyboardkenya.org</a>

#### 4.9 Overdose

No data are available in humans with regard to overdose by accidental or deliberate ingestion of dorzolamide/timolol eye drops, solution.

# **Symptoms**

There have been reports of inadvertent overdoses with timolol maleate ophthalmic solution resulting in systemic effects similar to those seen with systemic beta-adrenergic blocking agents such as dizziness, headache, shortness of breath, bradycardia, bronchospasm and cardiac arrest. The most common signs and symptoms to be expected with overdoses of dorzolamide are electrolyte imbalance, development of an acidotic state, and possibly central nervous system effects.

Only limited information is available with regard to human overdose by accidental or deliberate ingestion of dorzolamide hydrochloride. With oral

<sup>\*\*</sup>Additional adverse reactions have been seen with ophthalmic betablockers and may potentially occur with Dorzolamide/Timolol.

ingestion, somnolence has been reported. With topical application the following have been reported: nausea, dizziness, headache, fatigue, abnormal dreams and dysphagia.

#### Treatment

Treatment should be symptomatic and supportive. Serum electrolyte levels (particularly potassium) and blood pH levels should be monitored. Studies have shown that timolol does not dialyse readily.

# 5. Pharmacological properties

# 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Antiglaucoma preparations and miotics, Beta-blocking agents, Timolol, Combinations, ATC code: S01ED51

# Mechanism of action

Dorzolamide/Timolol is comprised of two components: dorzolamide hydrochloride and timolol maleate. Each of these two components decreases elevated intraocular pressure by reducing aqueous humour secretion, but does so by a different mechanism of action.

Dorzolamide hydrochloride is a potent inhibitor of human carbonic anhydrase II. Inhibition of carbonic anhydrase in the ciliary processes of the eye decreases aqueous humour secretion, presumably by slowing the formation of bicarbonate ions with subsequent reduction in sodium and fluid transport. Timolol maleate is a non-selective beta-adrenergic receptor blocking agent. The precise mechanism of action of timolol maleate in lowering intraocular pressure is not clearly established at this time, although a fluorescein study and tonography studies indicate that the predominant action may be related to reduced aqueous formation. However, in some studies a slight increase in outflow facility was also observed. The combined effect of these two agents results in additional intraocular pressure reduction (IOP) compared to either component administered alone.

Following topical administration, Dorzolamide/Timolol reduces elevated intraocular pressure, whether or not associated with glaucoma. Elevated intraocular pressure is a major risk factor in the pathogenesis of optic nerve damage and glaucomatous visual field loss.

Dorzolamide/Timolol reduces intraocular pressure without the common adverse reactions of miotics such as night blindness, accommodative spasm and pupillary constriction.

### Pharmacodynamic effects

## Clinical effects

Clinical studies of up to 15 months duration were conducted to compare the IOP-lowering effect of dorzolamide/timolol eye drops, solution b.i.d. (dosed morning and bedtime) to individually and concomitantly administered 0.5% timolol and 2.0% dorzolamide in patients with

glaucoma or ocular hypertension for whom concomitant therapy was considered appropriate in the trials. This included both untreated patients and patients inadequately controlled with timolol monotherapy. The majority of patients were treated with topical beta-blocker monotherapy prior to study enrollment. In an analysis of the combined studies, the IOP-lowering effect of dorzolamide/timolol eye drops, solution b.i.d. was greater than that of monotherapy with either 2% dorzolamide t.i.d. or 0.5% timolol b.i.d.. The IOP-lowering effect of dorzolamide/timolol eye drops, solution b.i.d. was equivalent to that of concomitant therapy with dorzolamide b.i.d. and timolol b.i.d.. The IOP-lowering effect of dorzolamide/timolol eye drops, solution b.i.d. was demonstrated when measured at various time points throughout the day and this effect was maintained during long-term administration.

### Paediatric population

A 3-month controlled study, with the primary objective of documenting the safety of 2% dorzolamide hydrochloride ophthalmic solution in children under the age of 6 years has been conducted. In this study, 30 patients under 6 and greater than or equal to 2 years of age whose IOP was not adequately controlled with monotherapy by dorzolamide or timolol received dorzolamide/timolol eye drops, solution in an open label phase. Efficacy in those patients has not been established. In this small group of patients, twice daily administration of dorzolamide/timolol eye drops, solution was generally well tolerated with 19 patients completing the treatment period and 11 patients discontinuing for surgery, a change in medicinal product, or other reasons.

# 5.2 Pharmacokinetic properties Dorzolamide hydrochloride

Unlike oral carbonic anhydrase inhibitors, topical administration of dorzolamide hydrochloride allows for the active substance to exert its effects directly in the eye at substantially lower doses and therefore, with less systemic exposure. In clinical trials, this resulted in a reduction in IOP without the acid-base disturbances or alterations in electrolytes characteristic of oral carbonic anhydrase inhibitors.

When topically applied, dorzolamide reaches the systemic circulation. To assess the potential for systemic carbonic anhydrase inhibition following topical administration, active substance and metabolite concentrations in red blood cells (RBCs) and plasma and carbonic anhydrase inhibition in RBCs were measured. Dorzolamide accumulates in RBCs during chronic dosing as a result of selective binding to CA-II while extremely low concentrations of free active substance in plasma are maintained. The parent active substance forms a single N-desethyl metabolite that inhibits CA-II less potently than the parent active substance but also inhibits a less active isoenzyme (CA-I). The metabolite also accumulates in RBCs where it binds primarily to CA-I. Dorzolamide binds moderately to plasma proteins (approximately 33%). Dorzolamide is primarily

excreted unchanged in the urine; the metabolite is also excreted in urine. After dosing ends, dorzolamide washes out of RBCs non-linearly, resulting in a rapid decline of active substance concentration initially, followed by a slower elimination phase with a half-life of about four months.

When dorzolamide was given orally to simulate the maximum systemic exposure after long term topical ocular administration, steady state was reached within 13 weeks. At steady state, there was virtually no free active substance or metabolite in plasma; CA inhibition in RBCs was less than that anticipated to be necessary for a pharmacological effect on renal function or respiration. Similar pharmacokinetic results were observed after chronic, topical administration of dorzolamide hydrochloride. However, some elderly patients with renal impairment (estimated CrCl 30-60 ml/min) had higher metabolite concentrations in RBCs, but no meaningful differences in carbonic anhydrase inhibition and no clinically significant systemic adverse reactions were directly attributable to this finding.

#### Timolol maleate

In a study of plasma active substance concentration in six subjects, the systemic exposure to timolol was determined following twice daily topical administration of timolol maleate ophthalmic solution 0.5%. The mean peak plasma concentration following morning dosing was 0.46 ng/ml and following afternoon dosing was 0.35 ng/ml.

### 5.3 Preclinical safety data

The ocular and systemic safety profile of the individual components is well established.

#### Dorzolamide

In rabbits given maternotoxic doses of dorzolamide associated with metabolic acidosis, malformations of the vertebral bodies were observed.

### Timolol

Animal studies have not shown teratogenic effect.

Furthermore, no adverse ocular reactions were seen in animals treated topically with dorzolamide hydrochloride and timolol maleate ophthalmic solution or with concomitantly-administered dorzolamide hydrochloride and timolol maleate. *In vitro* and *in vivo* studies with each of the components did not reveal a mutagenic potential. Therefore, no significant risk for human safety is expected with therapeutic doses of Dorzolamide/Timolol.

#### 6. Pharmaceutical Particulars

#### 6.1 List of Excipients

Benzalkonium chloride Mannitol Sodium Citrate Dihydrate

Hydroxyethyl cellulose

Sodium hydroxide solution 1N (for pH adjustment)

Water for injection

# 6.2 Incompatibilities

Not applicable.

#### 6.3 Shelf-Life

24 months

# 6.4 Special Precautions for storage

Keep out of reach of children. Store below 30°C.

Keep the bottle in outer container in order to protect from Light.

## 6.5 Nature and Content of container

5ml bottle with dropper and cap in carton. 5ml LDPE bottle of white color with a white color screw cap of HDPE + LDPE and dropper of Low-density polyethylene (LDPE) of white color.

# 6.6 Special precautions for disposal and other handling

No special requirements.

## 7. Marketing Authorization Holder

Mega Lifesciences Public Company Limited

Address: 384 Soi 6, Pattana 3 Road, Bangpoo Industrial Estate Moo 4,

Phraeksa, Mueang Samutprakam, 10280,

Country: Thailand

**Telephone:** +66-709-3600/401 - 8686

**E-Mail:** snehal@megawecare.com

# 8. Marketing Authorization Number

CTD11552

### 9. Date of first authorization/renewal of the authorization

09/07/2024

### 10. Date of revision of the text

11/05/2025