

**CENTER FOR DRUG EVALUATION AND  
RESEARCH**

*APPLICATION NUMBER:*

**204822Orig1s000**

**LABELING**

## HIGHLIGHTS OF PRESCRIBING INFORMATION

**These highlights do not include all the information needed to use IZBA (travoprost ophthalmic solution) 0.003% safely and effectively. See full prescribing information for IZBA.**

**IZBA (travoprost ophthalmic solution) 0.003%  
Initial U.S. Approval: 2001**

### INDICATIONS AND USAGE

IZBA is a prostaglandin analog indicated for the reduction of elevated intraocular pressure in patients with open-angle glaucoma or ocular hypertension. (1)

### DOSAGE AND ADMINISTRATION

One drop in the affected eye(s) once daily in the evening. (2)

### DOSAGE FORMS AND STRENGTHS

Solution containing 0.03 mg/mL travoprost ophthalmic solution. (3)

### WARNINGS AND PRECAUTIONS

- Pigmentation.  
Pigmentation of the iris, periorbital tissue (eyelid) and eyelashes can occur. Iris pigmentation likely to be permanent. (5.1)

- Eyelash Changes.  
Gradual change to eyelashes including increased length, thickness and number of lashes. Usually reversible. (5.2)

### ADVERSE REACTIONS

Most common adverse reaction is ocular hyperemia as shown in a clinical trial for IZBA (travoprost 0.003%) (12%). (6.1)

**To report SUSPECTED ADVERSE REACTIONS, contact Alcon Laboratories Inc. at 1-800-757-9195 or FDA at 1-800-FDA-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch)**

### USE IN SPECIFIC POPULATIONS

Use in pediatric patients below the age of 16 years is not recommended because of potential safety concerns related to increased pigmentation following long-term chronic use. (8.4)

**See 17 for PATIENT COUNSELING INFORMATION**

**Revised: 05/2014**

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\* Sections or subsections omitted from the full prescribing information are not listed

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## **FULL PRESCRIBING INFORMATION**

### **1 INDICATIONS AND USAGE**

IZBA (travoprost ophthalmic solution) 0.003% is indicated for the reduction of elevated intraocular pressure in patients with open-angle glaucoma or ocular hypertension.

### **2 DOSAGE AND ADMINISTRATION**

The recommended dosage is one drop in the affected eye(s) once daily in the evening. IZBA (travoprost ophthalmic solution) 0.003% should not be administered more than once daily since it has been shown that more frequent administration of prostaglandin analogs may decrease the intraocular pressure lowering effect.

Reduction of the intraocular pressure starts approximately 2 hours after the first administration with maximum effect reached after 12 hours.

IZBA may be used concomitantly with other topical ophthalmic drug products to lower intraocular pressure. If more than one topical ophthalmic drug is being used, the drugs should be administered at least five (5) minutes apart.

### **3 DOSAGE FORMS AND STRENGTHS**

Ophthalmic solution containing travoprost 0.03 mg/mL.

### **4 CONTRAINDICATIONS**

None

### **5 WARNINGS AND PRECAUTIONS**

#### **5.1 Pigmentation**

Travoprost ophthalmic solution has been reported to cause changes to pigmented tissues. The most frequently reported changes have been increased pigmentation of the iris, periorbital tissue (eyelid) and eyelashes. Pigmentation is expected to increase as long as travoprost is administered. The pigmentation change is due to increased melanin content in the melanocytes rather than to an increase in the number of melanocytes. After discontinuation of travoprost, pigmentation of the iris is likely to be permanent, while pigmentation of the periorbital tissue and eyelash changes have been reported to be reversible in some patients. Patients who receive treatment should be informed of the possibility of increased pigmentation. The long term effects of increased pigmentation are not known.

Iris color change may not be noticeable for several months to years. Typically, the brown pigmentation around the pupil spreads concentrically towards the periphery of the iris and the entire iris or parts of the iris become more brownish. Neither nevi nor freckles of the iris appear to be affected by treatment. While treatment with IZBA (travoprost ophthalmic solution) 0.003% can be continued in patients who develop noticeably increased iris pigmentation, these patients should be examined regularly. (*See Patient Counseling Information, 17.1*).

## **5.2 Eyelash Changes**

IZBA may gradually change eyelashes and vellus hair in the treated eye. These changes include increased length, thickness, and number of lashes. Eyelash changes are usually reversible upon discontinuation of treatment.

## **5.3 Intraocular Inflammation**

IZBA should be used with caution in patients with active intraocular inflammation (e.g., uveitis) because the inflammation may be exacerbated.

## **5.4 Macular Edema**

Macular edema, including cystoid macular edema, has been reported during treatment with travoprost ophthalmic solution. IZBA should be used with caution in aphakic patients, in pseudophakic patients with a torn posterior lens capsule, or in patients with known risk factors for macular edema.

## **5.5 Bacterial Keratitis**

There have been reports of bacterial keratitis associated with the use of multiple-dose containers of topical ophthalmic products. These containers had been inadvertently contaminated by patients who, in most cases, had a concurrent corneal disease or a disruption of the ocular epithelial surface (*See Patient Counseling Information, 17.3*).

## **5.6 Use with Contact Lenses**

Contact lenses should be removed prior to instillation of IZBA and may be reinserted 15 minutes following its administration.

# **6 ADVERSE REACTIONS**

## **6.1 Clinical Studies Experience**

Because clinical studies are conducted under widely varying conditions, adverse reaction rates observed in the clinical studies of a drug cannot be directly compared to rates in the clinical studies of another drug and may not reflect the rates observed in practice.

Different methodologies were used to collect adverse reactions during the development of travoprost. The most common adverse reaction observed in controlled clinical studies with travoprost 0.004% was ocular hyperemia. Ocular hyperemia was reported in 30 to 50% of patients by physician rating the severity of patient's post treatment ocular hyperemia compared to standardized reference photographs and/or patients who discontinued therapy due to ocular hyperemia.

In a 3 month clinical trial involving 442 patients exposed to IZBA (travoprost ophthalmic solution, 0.003%) and 422 control patients exposed to travoprost ophthalmic solution, 0.004%, the most common adverse drug reaction was ocular hyperemia. This was reported in 12% of patients treated with IZBA based on clinical observations and/or patient complaints. One patient (0.2%) discontinued treatment with IZBA due to ocular hyperemia. Rates observed in the control patients were comparable.

Ocular adverse reactions reported in clinical studies with travoprost ophthalmic solutions including IZBA at an incidence of 5% to 10% included decreased visual acuity, eye discomfort, foreign body sensation, pain and pruritus. Ocular adverse reactions reported at an incidence of 1 to 4% included abnormal vision, blepharitis, blurred vision, cataract, conjunctivitis, corneal staining, dry eye, iris discoloration, keratitis, lid margin crusting, ocular inflammation, photophobia, subconjunctival hemorrhage and tearing.

Nonocular adverse reactions reported at an incidence of 1 to 5% in these clinical studies were allergy, angina pectoris, anxiety, arthritis, back pain, bradycardia, bronchitis, chest pain, cold/flu syndrome, depression, dyspepsia, gastrointestinal disorder, headache, hypercholesterolemia, hypertension, hypotension, infection, pain, prostate disorder, sinusitis, urinary incontinence and urinary tract infections.

In postmarketing use with prostaglandin analogs, periorbital and lid changes including deepening of the eyelid sulcus have been observed.

## **8 USE IN SPECIFIC POPULATIONS**

### **8.1 Pregnancy**

#### **Pregnancy Category C**

There are no adequate and well-controlled studies of IZBA (travoprost ophthalmic solution 0.003%) administration in pregnant women. Malformations were observed in rats at doses that were 1500 times higher the maximum recommended human ocular dose (MRHOD) based on estimated  $C_{max}$  values for the active free acid. Embryo lethality and decreased fetal/neonate viability were observed in mice at subcutaneous doses 9-fold higher than the MRHOD based on estimated  $C_{max}$  for the active free acid. IZBA should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Travoprost was teratogenic in rats, at an intravenous (IV) dose up to 10 mcg/kg/day (1500 times the MRHOD), evidenced by an increase in the incidence of skeletal malformations as well as external and visceral malformations, such as fused sternbrae, domed head and hydrocephaly. Travoprost did not produce malformations in rats at IV doses up to 3 mcg/kg/day (470 times the MRHOD), or in mice at subcutaneous doses up to 1 mcg/kg/day (9 times the MRHOD). Travoprost produced an increase in post-implantation losses and a decrease in fetal viability in rats at IV doses of 10 mcg/kg/day (1500 times the MRHOD) and in mice at subcutaneous doses of 1 mcg/kg/day (9 times the MRHOD).

In the offspring of female rats that received travoprost subcutaneously from Day 7 of pregnancy to lactation Day 21 at doses of  $\geq 0.12$  mcg/kg/day (3.2 times the MRHOD), the incidence of postnatal mortality was increased, and neonatal body weight gain was decreased. Neonatal development was also affected, evidenced by delayed eye opening, pinna detachment and preputial separation, and by decreased motor activity.

### 8.3 Nursing Mothers

A study in lactating rats demonstrated that radiolabeled travoprost and/or its metabolites were excreted in milk. It is not known whether this drug or its metabolites are excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when IZBA is administered to a nursing woman.

### 8.4 Pediatric Use

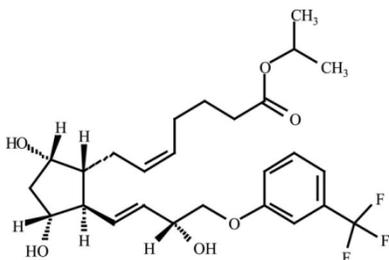
Use in pediatric patients below the age of 16 years is not recommended because of potential safety concerns related to increased pigmentation following long term chronic use.

### 8.5 Geriatric Use

No overall clinical differences in safety or effectiveness have been observed between elderly and other adult patients.

## 11 DESCRIPTION

Travoprost is a synthetic prostaglandin  $F_{2\alpha}$  analog. Its chemical name is [1*R*-[1 (*Z*),2 (*1E,3R*\*),3*α*,5  $\alpha$ ]]-7-[3,5-Dihydroxy-2-[3- hydroxy-4-[3-(trifluoromethyl) phenoxy]-1-butenyl]cyclopentyl]-5-heptenoic acid, 1-methylethylester. It has a molecular formula of  $C_{26}H_{35}F_3O_6$  and a molecular weight of 500.55. The chemical structure of travoprost is:



Travoprost is a clear, colorless to slightly yellow oil that is very soluble in acetonitrile, methanol, octanol, and chloroform. It is practically insoluble in water.

IZBA (travoprost ophthalmic solution) 0.003% is supplied as sterile, isotonic, buffered aqueous solution of travoprost with a pH of approximately 6.8 and an osmolality of approximately 290 mOsmol/kg.

IZBA contains **Active:** travoprost 0.03 mg/mL; **Preservative:** POLYQUAD<sup>®</sup> (polyquaternium-1) 0.01mg/mL; **Inactives:** boric acid, mannitol, polyoxyethylene 40 hydrogenated castor oil, propylene glycol, sodium chloride, sodium hydroxide and/or hydrochloric acid (to adjust pH) and purified water, USP.

## 12 CLINICAL PHARMACOLOGY

### 12.1 Mechanism of Action

Travoprost free acid, a prostaglandin analog is a selective FP prostanoid receptor agonist which is believed to reduce intraocular pressure by increasing uveoscleral outflow. The

exact mechanism of action is unknown at this time.

### 12.3 Pharmacokinetics

Travoprost is absorbed through the cornea and is hydrolyzed to the active free acid. Data from four multiple dose pharmacokinetic studies using travoprost ophthalmic solution, 0.004% (totaling 107 subjects) have shown that plasma concentrations of the free acid are below 0.01 ng/mL (the quantitation limit of the assay) in two-thirds of the subjects. In those individuals with quantifiable plasma concentrations (N=38), the mean plasma  $C_{max}$  was  $0.018 \pm 0.007$  ng/mL (ranged 0.01 to 0.052 ng/mL) and was reached within 30 minutes. From these studies, travoprost is estimated to have a plasma half-life of 45 minutes. There was no difference in plasma concentrations between Days 1 and 7, indicating steady-state was reached early and that there was no significant accumulation.

Travoprost, an isopropyl ester prodrug, is hydrolyzed by esterases in the cornea to its biologically active free acid. Systemically, travoprost free acid is metabolized to inactive metabolites via beta-oxidation of the  $\alpha$ (carboxylic acid) chain to give the 1,2-dinor and 1,2,3,4-tetranor analogs, via oxidation of the 15-hydroxyl moiety, as well as via reduction of the 13,14 double bond.

The elimination of travoprost free acid from plasma was rapid and levels were generally below the limit of quantification within one hour after dosing. The terminal elimination half-life of travoprost free acid was estimated from fourteen subjects and ranged from 17 minutes to 86 minutes with the mean half-life of 45 minutes. Less than 2% of the topical ocular dose of travoprost was excreted in the urine within 4 hours as the travoprost free acid.

## 13 NONCLINICAL TOXICOLOGY

### 13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Two-year carcinogenicity studies in mice and rats at subcutaneous doses of 10, 30, or 100 mcg/kg/day did not show any evidence of carcinogenic potential. However, at 100 mcg/kg/day, male rats were only treated for 82 weeks, and the maximum tolerated dose (MTD) was not reached in the mouse study. The high dose (100 mcg/kg) corresponds to exposure levels over 400 times (for the mouse) and 700 times (for the rat) of the human exposure at the maximum recommended human ocular dose (MRHOD) of 0.03 mcg/kg, based on estimated plasma  $C_{max}$  for active free acid.

Travoprost was not mutagenic in the Ames test, mouse micronucleus test or rat chromosome aberration assay. A slight increase in the mutant frequency was observed in one of two mouse lymphoma assays in the presence of rat S-9 activation enzymes.

Travoprost did not affect mating or fertility indices in male or female rats at subcutaneous doses up to 10 mcg/kg/day (40 times the MRHOD based on estimated plasma  $C_{max}$  for active free acid). At 10 mcg/kg/day, the mean number of corpora lutea was reduced, and the post-implantation losses were increased. These effects were not observed at 3 mcg/kg/day (12 times the MRHOD).

## 14 CLINICAL STUDIES

A single clinical trial of 3 months duration was conducted to compare the IOP-lowering effect of IZBA (travoprost ophthalmic solution) 0.003% to TRAVATAN (travoprost ophthalmic solution) 0.004% , with both dosed once daily in the evening in adult patients with open angle glaucoma or ocular hypertension. Patient age ranged from 21 to 92 years, with a mean age of 65 years. A total of 864 patients (IZBA, 442 patients; TRAVATAN, 422 patients) were enrolled, with 840 (97%) completing through Month 3.

Analysis was based on the intent-to-treat (ITT) population defined as all patients who received study drug and completed at least one scheduled on-therapy study visit.

The least squares mean IOP (mmHg), the difference in mean IOP (IZBA minus TRAVATAN), and the 95% CI for the treatment difference in mean IOP at visit and time point are presented in Table 1. The differences in the mean IOP at all visits and time points were within  $\pm 1$  mmHg, demonstrating equivalence of IZBA to TRAVATAN in lowering intraocular pressure.

Table 2 presents the mean IOP change from baseline at Week 2, Week 6, and at Month 3. IZBA demonstrated comparable IOP reductions at all on-therapy visits and time points; the mean IOP reduction from baseline in the IZBA group ranged from 7.1 to 8.2 mmHg and in the TRAVATAN group ranged from 7.1 to 8.4 mmHg. In both treatment groups, the greatest mean IOP reduction was observed at the 8 AM assessment time point.

Table 1 Mean IOP (mmHg) by Treatment Group and Treatment Difference in Mean IOP

Visit/ Time Point	IZBA (Travoprost 0.003%)	TRAVATAN (Travoprost 0.004%)	Difference
	Mean (SE)	Mean (SE)	Mean (95% CI) *
Baseline	(N = 442)	(N = 418)	
8 AM	26.9 (0.12)	27.1 (0.14)	-0.2 (-0.5, 0.2)
10 AM	25.4 (0.13)	25.6 (0.15)	-0.2 (-0.6, 0.2)
4 PM	24.6 (0.14)	24.8 (0.16)	-0.2 (-0.6, 0.2)
Week 2	(N = 442)	(N = 416)	
8 AM	19.4 (0.16)	19.5 (0.17)	-0.1 (-0.5, 0.3)
10 AM	18.6 (0.16)	18.6 (0.16)	-0.0 (-0.4, 0.4)
4 PM	18.0 (0.16)	18.3 (0.16)	-0.3 (-0.7, 0.1)
Week 6	(N = 440**)	(N = 413)	
8 AM	19.3 (0.16)	19.3 (0.17)	-0.0 (-0.4, 0.4)
10 AM	18.5 (0.16)	18.6 (0.17)	-0.1 (-0.5, 0.3)
4 PM	18.0 (0.16)	18.1 (0.17)	-0.2 (-0.6, 0.2)
Month 3	(N = 432**)	(N = 408)	
8 AM	19.2 (0.17)	19.3 (0.18)	-0.1 (-0.5, 0.3)
10 AM	18.3 (0.17)	18.6 (0.18)	-0.3 (-0.7, 0.1)
4 PM	18.0 (0.16)	18.0 (0.17)	0.0 (-0.4, 0.4)

SE = Standard Error; CI = Confidence Interval \* Estimates for Week 2, Week 6, and Month 3 are based on least squares means derived from a statistical model that accounts for correlated IOP measurements within patient where site and 8 AM baseline IOP stratum are in the model; estimates for Baseline visit at each time point are based on a two sample independent t-test procedure. \*\*One subject had missing data at 8 AM at Week 6; one subject had missing data at 4 PM at Month 3.

Table 2. IOP Change from Baseline (mmHg)

Visit		IZBA			TRAVATAN				
		N	8 AM	10 AM	4 PM	N	8 AM	10 AM	4 PM
Week 2	Mean	442	-8.0	-7.3	-7.1	416	-8.1	-7.5	-7.1
	95% CI		(-8.3, -7.7)	(-7.6, -7.0)	(-7.4, -6.8)		(-8.4, -7.8)	(-7.8, -7.2)	(-7.4, -6.8)
Week 6	Mean	440*	-8.1	-7.4	-7.2	413	-8.3	-7.5	-7.2
	95% CI		(-8.4, -7.9)	(-7.6, -7.1)	(-7.5, -6.9)		(-8.7, -8.0)	(-7.9, -7.2)	(-7.5, -6.9)
Month 3	Mean	432*	-8.2	-7.5	-7.1	408	-8.4	-7.6	-7.3
	95% CI		(-8.6, -7.9)	(-7.9, -7.2)	(-7.4, -6.8)		(-8.7, -8.1)	(-7.9, -7.2)	(-7.7, -7.0)

\*One subject had missing data at 8 AM at Week 6; one subject had missing data at 4 PM at Month 3.

## 16 HOW SUPPLIED/STORAGE AND HANDLING

IZBA (travoprost ophthalmic solution) 0.003% is a sterile, isotonic, buffered, preserved, aqueous solution of travoprost (0.03 mg/mL) supplied in Alcon's oval DROP-TAINER<sup>®</sup> package system.

IZBA is supplied as a 2.5 mL solution in a 4 mL bottle and a 5 mL solution in a 7.5 mL bottle. The dispenser bottles are made of polypropylene and fitted with a natural color polypropylene dropper tip and a turquoise polypropylene overcap. Tamper evidence is provided with a shrink band around the closure and neck area of the package.

2.5 mL fill        NDC 0065-0000-00  
5 mL fill         NDC 0065-0000-00

**Storage:** Store at 2° - 25°C (36° - 77°F).

## 17 PATIENT COUNSELING INFORMATION

### 17.1 Potential for Pigmentation

Advise patients about the potential for increased brown pigmentation of the iris, which may be permanent. Advise patients about the possibility of eyelid skin darkening, which may be reversible after discontinuation of IZBA (travoprost ophthalmic solution 0.003%).

### 17.2 Potential for Eyelash Changes

Advise patients about the possibility of eyelash and vellus hair changes in the treated eye during treatment with IZBA. These changes may result in a disparity between eyes in length, thickness, pigmentation, number of eyelashes or vellus hairs, and/or direction of eyelash growth. Eyelash changes are usually reversible upon discontinuation of treatment.

### 17.3 Handling the Container

Instruct patients to avoid allowing the tip of the dispensing container to contact the eye, surrounding structures, fingers, or any other surface in order to avoid contamination of the

solution by common bacteria known to cause ocular infections. Serious damage to the eye and subsequent loss of vision may result from using contaminated solutions.

**17.4 When to Seek Physician Advice**

Advise patients that if they develop an intercurrent ocular condition (e.g., trauma or infection), have ocular surgery, or develop any ocular reactions, particularly conjunctivitis and eyelid reactions, they should immediately seek their physician's advice concerning the continued use of IZBA.

**17.5 Use with Contact Lenses**

Contact lenses should be removed prior to instillation of IZBA and may be reinserted 15 minutes following its administration.

**17.6 Use with Other Ophthalmic Drugs**

If more than one topical ophthalmic drug is being used, the drugs should be administered at least five (5) minutes between applications.

**Rx Only**

U.S. Patent Nos. 5,631,287; 5,849,792; 5,889,052; 6,011,062; 8,178,582

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**PRINCIPAL DISPLAY PANEL**

NDC 0065-0000-00                      Rx Only

IZBA (travoprost ophthalmic solution) 0.003%  
Alcon®                                      2.5 mL

