

Bladder outlet obstruction associated with benign prostatic hyperplasia



CONTRAINDICATIONS (URIEF Tab. is contraindicated in the following patients.)
Patients with known hypersensitivity to any of the components of URIEF Tab.

### **DESCRIPTION**

## 1. Composition

Brand name Ingredient	URIEF Tab. 4 mg
Active ingredient/ content (per tablet)	Silodosin (4 mg)
Inactive ingredients	Low substituted hydroxypropyl cellulose, Hydroxypropyl cellulose, Corn starch, Magnesium stearate, Talc, D-mannitol, Hypromellose, Titanium oxide, Carnauba wax

## 2. Description

Brand Name	Dosage Form	Appearance/ Identification code			~ L
Drand Name	Dosage Form	Face	Reverse	Lateral	Color
URIEF® Tab 4 mg	Film coated tablets	K	UR		White to pale yellowish white film-coated tablet (scored)
Ortice Tab 4 mg	Film coated tablets	Diameter 8.1 mm	Weight 208.0 mm	Thickness 3.8 mm	

### **INDICATIONS**

Bladder outlet obstruction associated with benign prostatic hyperplasia.

### <Precautions>

URIEF Tab. is associated with a high incidence of adverse reactions and abnormal ejaculation is reported frequently as a characteristic adverse reaction. URIEF Tab. should be used after careful consideration is given to the risks associated with its use and carefully explaining the adverse reactions to the patient. (See "Important Precautions" and "Adverse Reactions".)

## DOSAGE AND ADMINISTRATION

The adult dosage for oral use is 4 mg of silodosin twice daily after breakfast and evening meal. The dosage may be reduced according to the patient's conditions.

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#### <Pre><Precautions>

The plasma concentration of silodosin may be elevated in patients with impaired hepatic function. It has been reported that plasma concentration of silodosin is increased in patients with impaired renal function. Therefore, starting treatment at a low dose (2 mg/dose) while observing the condition of the patient; for instance, should be considered. (See "PHARMACOKINETICS".)

### **PRECAUTIONS**

- 1. Careful Administration (URIEF Tab. should be administered with care in the following patients.)
  - (1) Patients with orthostatic hypotension [Symptoms may be aggravated.]
  - (2) Patients with impaired hepatic function [Elevated plasma drug concentrations may occur. (See "Precautions".)]
  - (3) Patients with impaired renal function [Elevated plasma drug concentrations have been reported. See "Precautions".)]
  - (4) Patients treated with phosphodiesterase-5 inhibitors. (See "Drug Interactions".)

### 2. Important Precautions

- (1) Abnormal ejaculation (e.g., retrograde ejaculation) has been reported. Therefore, URIEF Tab. should be used after obtaining the understanding of patients by carefully explaining the risk of abnormal ejaculation. (See "Adverse Reactions".)
- (2) Orthostatic hypotension may occur. Therefore, caution should be exercised regarding fluctuations in blood pressure due to changes in body posture.
- (3) The symptom such as dizziness may occur. Therefore, the patient should be advised to exercise caution when engaging in hazardous activities such as working at heights or driving a car.
- (4) Prior to commencement of treatment with URIEF Tab., the patient should be asked whether they are taking any hypotensive drugs and, in the event that any hypotensive drug are used, attention should be paid to changes in blood pressure while using URIEF Tab. If a decrease in blood pressure occurs, appropriate therapeutic actions, such as a dosage reduction or discontinuation of treatment, should be taken.
- (5) It should be borne in mind that treatment with URIEF Tab. does not eliminate the cause of the disease, but gives symptomatic relief. If treatment with URIEF Tab. does not result in the expected effect, consideration should be given to other appropriate therapeutic measures such as surgery.

## 3. Drug Interactions

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Silodosin is metabolised mainly by cytochrome P450 3A4 (CYP3A4), UDP-glucuronosyltransferases (UGTs), alcohol dehydrogenase (ADH), and aldehyde dehydrogenase (ALDH). (See "PHARMACOKINETICS".)

Coadministration with potent inhibitors of CYP3A4 activity blocks the metabolism of silodosin. This may result in elevated plasma drug concentrations.

Precautions for co-administration (URIEF Tab. should be administered with care when co-administered with the following drugs.)

Drugs	Signs, Symptoms, and Treatment	Mechanism and Risk Factors	
Hypotensive agents	Since orthostatic hypotension may occur, attention should be paid to dosage reduction, etc.	Patients receiving treatment with an hypotensive agent may have diminished ability to regulate bloc pressure on standing.	
Azole antifungal agents Itraconazole etc.	Elevated plasma concentrations of silodosin have been reported following coadministration with ketoconazole (oral preparation not marketed in Japan), a potent CYP3A4 inhibitor. (See "PHAR-MACOKINETICS".) Since elevated plasma concentrations of silodosin may occur following coadministration with azole anti fungal agents, attention should be paid to dosage reduction, etc.	Since azole antifungal agents inhibit CYP3A4, elevated plasma concentrations of silodosin may occur following coadministration with these preparations.	
Phosphodiesterase-5 inhibitors Sildenafil citrate, Vardenafil hydro- chloride hydrate, etc.		Since URIEF Tab. has an a-blocking effect, co-administration may enhance the hypotensive effect due to the vasodilatory effect of these drugs.	

## 4. Adverse Reactions

Adverse reactions of silodosin (capsule) were reported in 391 (44.8%) of a total of 873 patients with lower urinary tract symptoms in a clinical study conducted up to the time of approval. The most common adverse reactions included abnormal ejaculation (e.g., retrograde ejaculation) in 150 (17.2%) patients, thirst in 50 (5.7%) patients, diarrhea in 35 (4.0%) patients, loose stools in 34 (3.9%) patients, dizziness on standing up in 31 (3.6%) patients, nasal congestion in 29 (3.3%) patients, dizziness in 23 (2.6%) patients, light-headed feeling in 22 (2.5%) patients, and headache in 19 (2.2%) patients. Abnormal laboratory data were reported in 185 (21.7%) of a total of 853 patients. The most common events included increased triglycerides in 62 (7.4%) patients, increased CRP in 21 (3.9%) patients, increased ALT (GPT) in 20 (2.3%) patients, increased AST (GOT) in 19 (2.2%) patients, and increased  $\gamma$ -GTP in19 (2.2%) patients. It should be noted that, in the phase III double-blind comparative study, abnormal ejaculation (e.g., retrograde ejaculation) was reported in 39 (22.3%) of 175 patients.

## (1) Clinically significant adverse reactions

- Syncope, unconsciousness (Incidence unknown): Since a transient unconsciousness associated with hypotension etc. may occur, patients should be carefully monitored and, in the event of any abnormalities, treatment with URIEF Tab. should be discontinued and appropriate therapeutic action taken.
- 2) Impaired hepatic function, jaundice (Both incidence unknown): Impaired hepatic function associated with increased AST (GOT), increased ALT (GPT) etc. or jaundice may occur, patients should be carefully monitored and, in the event of any abnormalities, appropriate measures, such as discontinuation of URIEF Tab. should be taken.

## (2) Other adverse reactions

The following adverse reactions may occur. Therefore, if any abnormalities are observed, appropriate therapeutic measures such as dosage reduction or discontinuation of treatment should be taken.

	Frequency unknown	≥5%	1-5%	0.1-1%
Genitourinary		Abnormal ejaculation (e.g., retrograde ejaculation)	Abnormal ejaculation (e.g., retrograde ejaculation)	
Gastrointestinal	Stomatitis	Thirst	Stomach discomfort, diarrhea, loose stools, constipation	Vomiting, nausea, anorexia, stomachache, abdominal pain, enlarged feeling of abdomen, epigastric discomfort, lower abdominal pain, gastric ulcer, gastritis, atrophic gastritis, heartburn, heavy stomach feeling, duodenal ulcer, increased flatus, increased defecation, feeling of residual stool, anal discomfort
Nervous system/ Psychiatric			Dizziness, dizziness on standing up, light-headed feeling, headache	Shoulder stiffness, numbness of fingers, twilight state, sleepiness, decreased libido, dull headache
Respiratory			Epistaxis, nasal congestion	Nasal discharge, coughing
Cardiovascular				Atrial fibrillation, palpitations, tachycardia, arrhythmia, supraventricular extrasystole, orthostatic hypotension, hypotension, hypertension
Hypersensitivity				Rash, eruption, eczema, urticaria, itching
Ocular	Intra-operative floppy iris syndro- me (IFIS), filmy vision			Ocular hyperemia, ocular pruritus, conjunctival bleeding
Hepatic			AST(GOT) increased, ALT (GPT) increased, γ-GTP increased, total bilirubin increased, Al-P increased, LDH increased	
Renal				BUN increased, creatinine increased
Hematologic			WBC decreased, RBC decreased, hemoglobin decreased, hematocrit decreased	Leukocytosis, thrombocytopenia
Others	Edema, Gynaecomastia	Triglycerides increased	Malaise, CRP increased, total cholesterol increased, urine sugar increased, urinary sediment increased	Facial hot flushes, tinnitus, bitter taste, chest pain, lumbar pain, weakness of lower extremities, sweating, hot flush, mood disorder, serum potassium increased, total protein decreased, prostate specific antigen increased, uric acid increased, urinary protein increased

# 5. Use in the Elderly

The elderly often have reduced physiological function. If hepatic or renal function is reduced, the elderly should be treated while carefully monitoring the condition of the patient, such as start administration at a low dose (2 mg/dose). (See "DOSAGE AND ADMINISTRATION, Precautions".)

## 6. Other Precautions

- (1) It has been reported that intraoperative floppy iris syndrome (IFIS) attributable to (1-blocking effect had been observed in patients who are currently receiving treatment with an (1-blocker, or who have previously received such treatment.
- (2) In a 104 week administration study in mice, it has been reported that the frequency of seminal vesicle dilatation was increased at doses of 20 mg/kg/day or more.<sup>1)</sup>

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(3) In a study on fertility and early embryogenesis until implantation in rats, it has been reported that deciduation of sperm cells in seminiferous tubules was observed at doses of 200 mg/kg/day or more and atrophy/degeneration of seminiferous tubules as well as decreased sperm survival and sperm count were observed at a dose of 600 mg/kg/day.<sup>2)</sup>

## **PHARMACOKINETICS**

### 1. Absorption and Plasma Concentrations

When a single 4 mg dose of silodosin (tablet or capsule) was administered orally to 13 and 14 healthy adult males, respectively, plasma concentrations and pharmacokinetic parameters of silodosin (tablet or capsule) are shown in Table 1 and Figure 1. It was demonstrated that the silodosin tablet of 4 mg capsule of 4 mg are biologically equivalent.<sup>3)</sup>

Table 1 Pharmacokinetic parameters following postprandial administration of 4 mg dose (tablet or capsule) in healthy adult male volunteers (mean  $\pm$  SD)

	Cmax (ng/mL)	AUC₀-∞  (ng-hr/mL)	Tmax (hr)	t1/2 (hr)
No. of subject	27	27	27	27
4 mg tablet	29.3 ± 13.9	122.9 ± 39.3	$0.9 \pm 0.7$	$5.8 \pm 3.4$
4 mg capsule	28.9 ± 14.7	125.4 ± 40.1	1.3 ± 0.9	$5.9 \pm 4.0$

a): In the case of AUC 0-48 hr, AUC 0-10 hr was tabulated as UC 0-48 hr for 1 subject out of 27 subjects.

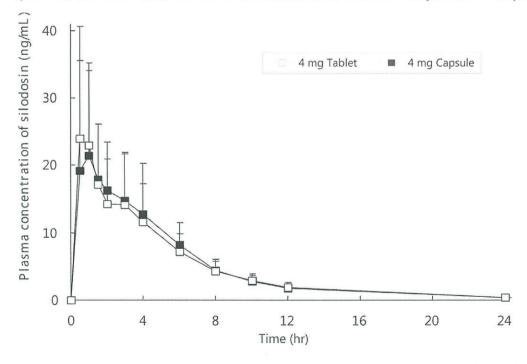


Figure 1 Time course of changes in plasma concentrations of silodosin following a single administration at a dose of 4 mg (tablet or capsule) in healthy adult male volunteers under fasting conditions. Data are expressed as mean SD (n=27)

When a single oral dose of URIEF Cap. was administered to healthy adult male volunteers (6 subjects/group) at doses ranging from 0.5 to 12 mg, plasma concentrations of silodosin increased dose-dependently, and Cmax and showed linearity.<sup>4)</sup> The time course of changes in plasma concentrations of silodosin following a single oral administration of URIEF Cap. at a dose of 2 or 4 mg is shown in Figure 2.<sup>5), 6)</sup>

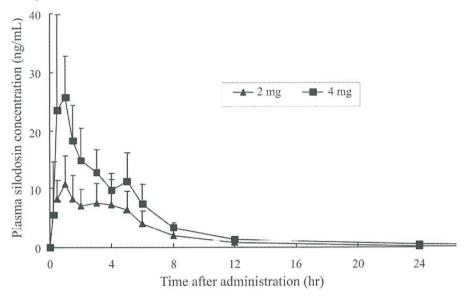


Figure 2 Time course of changes in plasma concentrations of silodosin following a single administration at a dose of 2 or 4 mg in healthy adult male volunteers under fasting conditions.

Data are expressed as mean SD (n=6)

When URIEF Cap. were administered orally twice daily for 7 days (once daily on days 1 and 7) at a dose of 4 mg/dose in 5 healthy adult male volunteers, plasma concentrations of silodosin reached a steady state on day 3. The accumulation factor relative to the first dose was 1.1-fold.<sup>4)</sup> (Table 2)

Table 2 Pharmacokinetic parameters following postprandial administration of 4 mg dose in healthy adult male volunteers (mean ± SD)

	Cmax (ng/mL)	AUC₀₋∞ (ng-hr/mL)	Tmax (hr)	t1/2 (hr)
Single dose	26.8 ± 9.2	143.9 ± 57.1	$2.2 \pm 0.5$	6.9 ± 3.1
Repeated dose	28.7 ± 7.6	134.3 ± 39.0	$2.0 \pm 0.0$	10.4 ± 4.6

Pharmacokinetic parameters following repeated administration are shown as the results obtained from the time course of changes in concentration on day 7 less the cumulative concentration from days 0 - 6

When a single 4 mg dose of URIEF Cap. was administered orally to 12 elderly males (age range: 65 to 75 year) postprandially, no obvious differences in the pharmacokinetic profile were observed compared to that in 9 non-elderly (age range: 21 to 31 years) males. The pharmacokinetic parameters in elderly males who received treatment with URIEF Cap. are shown in Table 3.4)

Table 3 Pharmacokinetic parameters following administration of a single postprandial 4 mg dose in elderly and non-elderly males (mean  $\pm$  SD)

	Cmax (ng/mL)	AUC₀-∞ (ng-hr/mL)	Tmax (hr)	t1/2 (hr)
Elderly male	21.8 ± 11.6	142.4 ± 54.7	2.5 ± 1.4	10.5 ± 4.0
Non-elderly male	20.5 ± 6.5	121.5 ± 38.1	$2.3 \pm 0.5$	8.7 ± 3.1

When a single 4 mg dose of URIEF Cap. was administered orally to 11 healthy adult male volunteers 30 min postprandially or under fasting conditions, the Cmax,  $AUC_{0.48hr}$ , Tmax, and  $t_{1/2}$  following postprandial administration (or under fasting conditions) were 23.0 (28.0) ng/mL, 128.8 (135.9) nghr/mL, 2.1 (1.4) hr, and 6.0 (4.7) hr, respectively (Table 4).<sup>4)</sup>

Table 4 Pharmacokinetic parameters following administration of a 4-mg dose in healthy adult male volunteers (mean ± S.D)

	Cmax (ng/mL)	AUC <sub>0-48hr</sub> (ng-hr/mL)	Tmax (hr)	t1/2 (hr)
Postprandial	23.0 ± 10.8	128.8 ± 64.1	$2.1 \pm 0.7$	$6.0 \pm 4.8$
Fasting	28.0 ± 9.6	135.9 ± 55.4	1.4 ± 1.1	4.7 ± 3.7

The clearance and distribution volume following administration of silodosin solution (2 mg) to 11 healthy adult male volunteers by intravenous infusion over 4 hr were 167.033.8 mL/min and 49.517.3 L, respectively. The bioavailability following a single oral administration of URIEF Cap. at a dose of 4 mg was 32.2%.<sup>7)</sup>

### 2. Protein Binding

In an in vitro study, the human plasma-protein binding rate of silodosin was 95.6% (at a concentration of 100 ng/mL) and the main binding protein was 1-acid glycoprotein.<sup>4)</sup>

### 3. Metabolism and Excretion

Silodosin was metabolised mainly by CYP3A4, UGTs, ADH, and ALDH, with the major metabolites in plasma being a glucuronide and an oxidized metabolite of silodosin.<sup>4)</sup> When a single 8 mg dose of <sup>14</sup>C-labeled silodosin solution was administered orally to 6 healthy male non - Japanese volunteers, the AUC<sub>0-12hr</sub> of silodosin and its glucuronide and oxidized metabolites relative to the AUC<sub>0-12hr</sub> of total radioactivity in plasma was 24.0, 21.9, and 34.9%, respectively. Other metabolites accounted for no more than 5%. In the 240-hour period after dosing, 33.5 and 54.9% of administered radioactivity was excreted in urine and feces, respectively.<sup>4)</sup>

The cumulative excretion in urine 0-48 hr after a single 4 mg dose of URIEF Cap. was administered orally to 12 elderly and 9 non-elderly male volunteers was 2.3 and 2.4% for silodosin, 1.6 and 1.8% for its glucuronide metabolite, and 4.5 and 4.9% for its oxidised metabolite, respectively.<sup>4)</sup>

# 4. Pharmacokinetics in Patients with Lower Urinary Tract Symptoms Associated with Benign Prostatic Hyperplasia

In an exploratory population pharmacokinetic analyses (n=258) of a long-term administration study with URIEF Cap. in patients with lower urinary tract symptoms associated with benign prostatic hyperplasia, the estimated plasma concentrations of silodosin (mean±SD) at steady state 2 and 12 hours post-dose were 24.88.0 and 7.43.3 ng/mL, respectively.

An analysis of variable factors in relation to plasma concentrations of silodosin suggested that silodosin clearance is affected by body weight, age, CRP, ALT (GPT), and serum creatinine and distribution volume by body weight, age, CRP, and ALT (GPT). Of these factors, it was concluded that ALT (GPT) had the most effect on plasma concentrations of silodosin and it was suggested that, as a result of increased levels of ALT (GPT) (2383 IU/L), silodosin clearance and distribution volume may decrease by approximately 47 and 27%, respectively.<sup>8)</sup>

# 5. Drug Interaction(s) Non-Japanese data

Ketoconazole (oral preparation not marketed in Japan) coadministration

When 16 healthy male volunteers (non-Japanese) who were receiving 200 mg of ketoconazole (p.o.) once daily for 4 days were coadministered a single 4 mg dose of URIEF Cap. (p.o.) on day 2, Cmax and AUC0-∞ of silodosin increased 3.7- and 2.9-fold, respectively, compared to when silodosin alone was administered.<sup>4)</sup>

Digoxin coadministration

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When URIEF Cap. (4 mg, twice daily) was coadministered orally with digoxin (0.25 mg, once daily) for 8 days to 16 healthy male volunteers (non-Japanese), it was confirmed that URIEF Cap. has no effect on the pharmacokinetic profile of digoxin.<sup>4)</sup>

## 6. Pharmacokinetics in Patients with Impaired Renal Function

When a single 4 mg dose of URIEF Cap. was administered orally to 6 patients with impaired renal function (creatinine clearance: 27-49 mL/min) and 7 volunteers with normal renal function (creatinine clearance: 125-176 mL/min), the total plasma concentration of silodosin was increased (Cmax: 3.1-fold; AUC0- $\infty$ : 3.2-fold) in patients with impaired renal function compared to that in the volunteer group. This increase in total plasma concentration of silodosin may be attributable to protein binding with serum (1-acid glycoprotein, with a high correlation between total plasma concentration of silodosin and serum concentration of (1-acid glycoprotein observed. It should be noted that the increase in the plasma concentration of unbound silodosin (Cmax: 1.5 fold; AUC0- $\infty$ : 2.0-fold), which is considered to have a direct bearing on the manifestation of drug effect and incidence of adverse reactions associated with silodosin, was less than that for the total drug concentration (Table 5).<sup>4)</sup>

Table 5 Pharmacokinetic parameters following administration of a single 4 mg dose in patients with impaired renal function and volunteers with normal renal function under fasting conditions (mean  $\pm$  SD)

	Cmax (ng/mL)	AUC ₀-∞ (ng-hr/mL)	Tmax (hr)	t1/2 (hr)
Impaired renal function	72.22 ± 44.12 (1.48 ± 1.30)	305.76 ± 115.38 (6.34 ± 3.43)	0.67 ± 0.26 (0.83 ± 0.26)	
Normal renal function	21.51 ± 8.52 (0.71 ± 0.13)	94.75 ± 41.28 (2.96 ± 1.09)	$0.86 \pm 0.56$ $(0.86 \pm 0.56)$	

Values in ( ) indicate plasma concentration of unbound silodosin.

### **CLINICAL STUDIES**

## 1. Phase II Double-Blind Comparative Study

When URIEF Cap. at a dose of 2 or 4 mg, or placebo was administered orally twice daily for 4 weeks to patients with lower urinary tract symptoms associated with benign prostatic hyperplasia, subjective symptoms (total I-PSS) were significantly improved in the 4-mg group compared to the placebo group (Table 6).99

Table 6 Change of total I-PSSa) compared to baseline

Group	Score at	Change in Wk 4	Compared to placebo	
	baseline	compared to baseline	Dunnett's multiple comparison test	
Placebo	18.1 ± 5.6 (88)	-3.0 ± 5.8 (88)	AMON	
2 mgx2/day	18.3 ± 6.5 (84)	-5.7 ± 6.1 (84)	P = 0.013	
4 mgx2/day	18.7 ± 6.0 (87)	-6.6 ± 5.5 (86)	P = 0.000	

Unit:Point

Mean±SD ( ): No. of subjects

a)I-PSS: International Prostate Symptom Score (Mild: 0-7, Moderate: 8-19, Severe: 20-35)

## 2. Phase III Double-blind Comparative Study

When URIEF Cap. (silodosin) at a dose of 4 mg or placebo was administered orally twice daily for 12 weeks to patients with lower urinary tract symptoms associated with benign prostatic hyperplasia, the total I-PSS in the silodosin and placebo groups on completion of the study showed a decrease of 8.3 and 5.3 points, respectively, compared to baseline (Fig. 3, Table 7). The percentage (%) of patients in the silodosin and placebo groups whose total I-PSS improved by at least 25% compared to baseline was 76.4% (133/174 patients) and 50.6% (45/89 patients), respectively. The percentage (%) of patients in the silodosin and placebo groups whose symptoms improved to mild (total I-PSS: < 8) was 47.7% (83/174 patients) and 31.5% (28/89 patients), respectively. In the silodosin group, an improvement in subjective symptoms was seen from as early as Wk 1 and an improvement effect was also observed in patients whose symptoms were severe. (10)

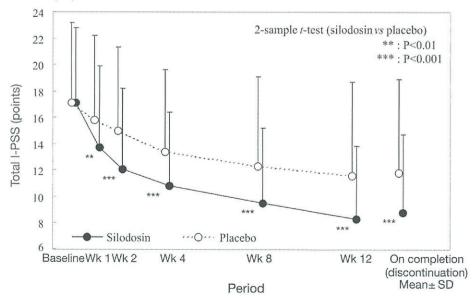


Figure 3 Time course of change in total I-PSS

Table 7 Change of total I-PSS compared to baseline and differences between groups

Group	n	Score at baseline a)	Score on completion of treatment	Change compared to baseline a)	Group difference in change	2-sided 95% Confidence interval
Silodosin	174	17.1 ± 5.7	8.8 ± 5.9	-8.3 ± 6.4	0.0	40.40
Placebo	89	17.1 ± 6.1	11.8 ± 7.1	-5.3 ± 6.7	-3.0	-4.6,-1.3

a) Mean ± SD

## 3. Long-term Administration Study

In a long-term administration study, URIEF Cap. was administered at a dose of 4 mg twice daily for 52 weeks to 364 patients with lower urinary tract symptoms associated with benign prostatic hypertrophy. A continuous improvement effect and drug safety were reported and stable subjective symptoms (total I-PSS) and improvement in maximum urine flow rate were observed.<sup>11)</sup>

### **PHARMACOLOGY**

## 1. Pharmacological Effects

### (1) Effects in human tissue

- 1) Affinity to  $\alpha$ -adrenergic receptors in the sympathetic nervous system In a receptor-binding assay on human  $\alpha_1$ -adrenergic receptors, silodosin showed a high affinity to the  $\alpha_{1A}$ -adrenergic receptor subtype. (12)
- 2) Effect on prostate gland In a receptor-binding assay using human prostate membrane specimens, silodosin showed a high affinity to the  $\alpha_{1A}$  -adrenergic receptor subtype.<sup>13)</sup> Silodosin inhibited noradrenalin-induced contractions of human prostate smooth muscle.<sup>13)</sup>

# (2) Effects in animals

- Effect on lower urinary tract tissue (prostate, urethra, and trigone of bladder)
   Silodosin exhibited a potent antagonistic action against noradrenalin-induced contractions in isolated rabbit prostate, urethra, and trigone of bladder.<sup>12)</sup>
- 2) Effect on urethral pressure
  - In anesthetized male rats, phenylephrine-induced increases in urethral pressure in the region of the prostate were selectively inhibited by silodosin. The inhibitory dose was lower than hypotensive dose.<sup>14)</sup>
  - In anesthetized male dogs, increased urethral pressure in the region of the prostate due to electrical stimulation of the hypogastric nerve was also selectively inhibited by silodosin. The inhibitory dose was lower than hypotensive dose.<sup>15)</sup>
- 3) Effect in prostatic hypertrophy model In a male rat prostatic hypertrophy model prepared by administration of sex hormone, bladder irritation symptoms associated with urinary retention were inhibited.<sup>16)</sup>

## 2. Mechanism of Action

By blocking the sympathetic nervous system, which mediates the  $\alpha_{1A}$ -adrenoceptor subtype which is distributed in lower urinary tract tissue (prostate, urethra, and trigone of bladder), silodosin reduces smooth muscle tone of lower urinary tract tissue and inhibits increases in urethral pressure, thereby improving lower urinary tract symptoms associated with benign prostatic hyperplasia.

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### **PHYSICOCHEMISTRY**

Nonproprietary name: Silodosin

: (-)-1-(3-Hydroxypropyl)-5-[(2R)-2-({2-[2-(2,2,2-trifluoroethoxy)phenoxy] Chemical name

ethyl}amino)propyl]-2,3-dihydro-1H-indole-7-carboxamide

Molecular formula

: C<sub>25</sub>H<sub>32</sub>F<sub>3</sub>N<sub>3</sub>O<sub>4</sub>

Molecular weight

: 495.53

Structural formula

$$F_3C$$
 O H  $CH_3$   $NH_2$  OH

### Description:

Silodosin occurs as a white to pale yellowish white powder. It is freely soluble in methanol and ethanol (99.5), and very slightly soluble in water.

Melting point: 105 - 109°C

Partition coefficient:

рН	2.8	6.0	9.7
Distribution ratio (1-octanol / buffer)	4.1 x 10 <sup>-3</sup>	1.7	5.0 x 10 <sup>2</sup>

### **PACKAGING**

URIEF Tablets 4 mg: - Box, 10 strips @ 10 film coated tablets

- Box, 3 strips @ 10 film coated tablets

Storage Condition: Store below 30°C and protect from light.

Expiring Date: Indicated on the outer package

#### REFERENCES

- 1) Internal Communication, Kissei Pharmaceutical Co., Ltd.
- 2) Internal Communication, Kissei Pharmaceutical Co., Ltd.
- 3) Internal Communication, Kissei Pharmaceutical Co., Ltd.
- 4) Shimizu T. et al.: Yakugakuzashi, 126: 257, 2006
- 5) Internal Communication, Kissei Pharmaceutical Co., Ltd.
- 6) Internal Communication, Kissei Pharmaceutical Co., Ltd.
- 7) Internal Communication, Kissei Pharmaceutical Co., Ltd.
- 8) Internal Communication, Kissei Pharmaceutical Co., Ltd.
- 9) Internal Communication, Kissei Pharmaceutical Co., Ltd.
- 10) Internal Communication, Kissei Pharmaceutical Co., Ltd.
- 11) Kawabe K et al.: Japanese J. Urological Surgery 19:153, 2006
- 12) Tatemichi S. et al.: Yakugakuzashi, 126: 209, 2006
- 13) Murata S. et al.: J. Urol., 164: 578, 2006
- 14) Tatemichi S. et al.: Yakugakuzashi, 126: 217, 2006
- 15) Internal Communication, Kissei Pharmaceutical Co., Ltd.

DISETUJUI OLEH BPOM: 08/02/2023 ID: EREG171808VR122000 16) Internal Communication, Kissei Pharmaceutical Co., Ltd.

Reg. No.: XXXXXXXXXXXXXXXX

## HARUS DENGAN RESEP DOKTER

Diproduksi oleh

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