Summary of Product Characteristics for Pharmaceutical Products

1. Name of the medicinal product

Dinlazole tablets

2. Qualitative and quantitative composition

Each tablet contains Albendazole USP 400mg

Excipients with known effect:

Lactose BP 400mg

Sodium Lauryl Sulphate 11mg

For the full list of excipients, see section 6.1.

3. Pharmaceutical form

Chewable tablet.

Light orange color elongated uncoated chewable tablets with break line on one side and plain on the other.

4. Clinical particulars

4.1 Therapeutic indications

Dinlazole is indicated in the treatment of single or mixed infestations of intestinal and tissue parasites, in adults and children over 2 years of age. Clinical studies have shown to be effective in the treatment of infections caused by: Enterobius vermicularis (pinworm/threadworm), Ascaris lumbricoides (roundworm), Ancylostoma duodenale and Necator americanus (hookworms), Trichuris trichiura (whipworm), Strongyloides stercoralis, animal hookworm larvae causing cutaneous larva migrans, and the liver flukes Opisthorchis viverrini and Clonorchis sinensis. Dinlazole is also indicated for the treatment of Hymenolepis nana and Taenia spp. (tapeworm) infections, when other susceptible helminths species are present. Treatment courses should be extended to 3 days.

4.2 Posology and method of administration

Indication	Daily dose	Treatment duration
Intestinal and skin infections (short-term treatment with lower dose)		
Oxyurosis	Children from 1 to 2 years: 5 ml suspension (200 mg) in one single dose Adults and children older than 2 years*: 400 mg, 1 single tablet or 10 ml of suspension in single dose Strict hygiene measures should be taken and family environment should also be treated	Single dose to be repeated 7 days after
Roundworms Hookworms Whipworms	Children from 1 to 2 years: 5 ml of suspension (200 mg) Adults and children older	Single dose. **

	than 2 years*: 400 mg, 1 single tablet or 10 ml of suspension in single dose	
Anguillulosis Taeniasis (associated with others parasitosis)	Adults and children older than 2 years *: 400 mg, 1 tablet or 10 ml of suspension daily	1 daily dose during 3 days. **
Giardiasis	Children older than 2 years*: 1 tablet or 10 ml of suspension daily	1 daily dose during 5 days.
Systemic infections (long-term treatment with higher doses)		
Trichinosis	Children*: 15 mg/kg/day divided into two daily doses Adults: 1 tablet or 10 ml of suspension twice daily	2 daily doses (morning & evening) during 10 to 15 days depending on the severity of the symptoms and on the onset of treatment.

Method of Administration

If the patient is not cured after three weeks, a second course of treatment is indicated. No special procedures, such as fasting or purging, are required. The tablets can be chewed or taken with water. Some people, particularly young children, may experience difficulties swallowing the tablets whole and should be encouraged to chew the tablets with a little water, alternatively the tablets may be crushed.

4.3 Contraindications

- Hypersensitivity to albendazole or to any of the components
- Pregnancy and women of childbearing age who do not use an efficient contraceptive method
- Breastfeeding

4.4 Special warnings and precautions for use

Neurologic symptoms

A treatment with albendazole might reveal a pre-existing neurocysticercosis, in particular in regions of strong infestation with taeniasis. Patients might feel neurological symptoms such as convulsions, increase in intracranial pressure and focal signs resulting from the inflammatory reactions following the death of the parasite in the brain. Symptoms might appear shortly after the treatment; an adapted treatment with corticoids and anticonvulsants should be immediately started. Precaution for use when using albendazole for systemic infections (long-term treatment with higher doses):

Liver disorders

Albendazole might result in a slight to moderate increase in liver transaminases, normalising generally when stopping the treatment. Serious cases of hepatitis have also been reported when treating systemic helminth infections (long-term treatment with higher doses). Tests of the liver function should be carried out prior to starting the treatment and at least every second week during the treatment. Albendazole shall be stopped in case of increase in hepatic enzymes (more than twice normal). If reintroducing the treatment is

indispensable, this should be done after normalisation of liver enzymes. Moreover, a close monitoring should be carried out, keeping in mind that potential relapses might appear because an allergic mechanism cannot be discarded.

Medullar depression

Cases of medullar depression have been reported during treatment of systemic helminth infections (longterm treatment with higher doses). Numerations of blood formula should be performed when starting the treatment and then after two weeks of treatment with albendazole. Patients with a liver disease, including liver echinococcosis, seem more likely to develop a medullar depression, leading to pancytopenia, medullar aplasia, agranulocytosis and leucopoenia. Then, an increase monitoring of the blood formula is recommended in patients showing a liver disease. Albendazole shall be stopped in case of significant decrease in the number of blood cells. In the treatment of trichinosis, few data are available with albendazole in children under 6 years of age. In the treatment of trichinosis, because of the activity, in particular on the intestinal forms and of the larvae in the early phase of the tissue migration, it is recommended to administer albendazole as early as possible at the start of the infestation in order to decrease the symptoms and the complications. This treatment remains inactive on the encysted larvae in chronic forms and when it is initiated belatedly. -

Contraception

Before initiating the treatment with albendazole, the doctor should inform the patient of the embryotoxic, teratogenic and aneugenic risks of albendazole, of the necessity of an efficient contraception and of the 5 potential consequences on pregnancy if it occurs during the course of the treatment with albendazole

4.5 Interaction with other medicinal products and other forms of interaction

Enzymes inducers anticonvulsivants, ritonavir and rifampicine may have the potential to reduce plasma concentrations of albendazole and of its active metabolite, albendazole sulfoxide with a risk of decrease in its efficacity. Clinical monitoring of the therapeutic efficacy and the potential adaptation of the posology of albendazole during the course of the treatment with an enzymatic inducer and after stopping.

4.6 Fertility, pregnancy, and lactation

Female patients Given the aneugenic, embryotoxic and teratogenic potential of albendazol, all the precautions should be taken in order to avoid pregnancy in these female patients. Treatment with albendazole should not be initiated before a negative result to a pregnancy test performed risht before the treatment initiation. Women of childbearing age should use an efficient contraceptive method during the treatment and 6 months after stopping the treatment. Male patients and their female partners All precaution should be taken in order to avoid pregnancy in the partners of male patients treated with albendazole. It is not known if the presence of albendazole in sperm can cause

teratogenic or genotoxic effects on human embryo/foetus. Men or their female partners of childbearing age must be informed of the obligation to use an efficient contraceptive method during all the course of the treatment with albendazole and during 3 months after stopping the treatment. Men whose partners are pregnant should be informed of the obligation to use a condom in order to reduce the exposition of their partner to albendazole. Pregnancy Studies in animal showed teratogenic embryotoxic effects in rat and rabbit at doses close to those used in men. in clinical trials, the data on the use of albendazole during the first term of pregnancy are limited. Albendazole is contraindicated during pregnancy, espacially because there are therapeutical alternatives that are better assessed in terms of safety in pregnant woman. Female patients should be informed of the necessity to consult their doctor immediately in case of pregnancy. This is based on prenatal monitoring targeted on malformations described in animal (skeletic, cranofacial, limbs). Fertility In rat or mouse, studies have showed testicular toxicity of albendazole (see section 5.3). akbendazole has an aneugic activity, which is a risk factor for alteration of fertility in man. Breasfeeding Albendazole is present in human breast milk after a single dose of 400 mg. Because of its aneugenic activity, a risk for the new born child cannot be excluded. In case of a single dose, breastfeeding should be stopped at the time of intake and for at least 5.5 half-lives after stopping the treatment. Before initiatiing breastfeeding, pump all the available breask milk and dispose of it; in case of repeated intakes, breastfeeding is contraindicated.

4.7 Effects on ability to drive and use machines.

When driving or using machines, it should be kept in mind that dizziness have been reported after using albendazole.

4.8 Undesirable effects

The frequency of side effects very common to rare have been determined based on the data from the clinical trials. The frequencies of the other side effects are mainly based on the postmarketing data and are referred to the reported observations rather than the real frequencies. Headaches, Dizziness, Gastro-intestinal symptoms (epigastric or abdominal pains, nausea, vomiting) and diarrhoea,

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

4.9 Overdose

Significant toxicity and mortality were shown in animal studies at doses exceeding 5,000 mg/kg; in rats, at estimated doses between 1,300 and 2,400 mg/kg; in hamsters, at doses exceeding 10,000 mg/kg; and in rabbits, at estimated doses between 500 and 1,250 mg/kg. In the animals, symptoms were demonstrated in a dose-response relationship and included diarrhea, vomiting, tachycardia, and respiratory distress.

In case of overdose, symptomatic treatment and medical monitoring are recommended

5. Pharmacological properties

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Antiparasitics - antihelmintics, ATC code: P02CA03. Albendazole is a benzimidazole carbamate. Albendazole is broad-spectrum antihelmintics, which is effective against a wide range of intestinal helminths. Albendazole acts on helminths'cytoskeleton by the inhibition of tubulin polymerisation and thus, their introduction in the microtubules, blocking glucose absorption of parasites and resulting in their death. Albendazole is also active on Giardia intestinalis (or duodenalis). It has an irreversible action that is targeted on the ventral disc of the trophozoites by acting on the polymerisation of tubulin and giardine, leading to a disorganisation of the cytoskeleton and micro strips. The ability of adhesion to the enterocytes is decreased, resulting in an inhibition of the growth and multiplication of the parasite.

5.2 Pharmacokinetic properties

Absorption and biotransformation Following the administration, the low proportion of albendazole is absorbed (< 5 %) is metabolised into albendazole sulfoxide and sulfone. The plasma concentration in sulfoxide, the main active circulating metabolite reaches its maximum about two and a half hours after its administration. The systemic pharmacological effect of albendazole is increased if the dose is administered concomitantly with a fat-rich meal, improving absorption by about 5. Elimination The plasma half-life of albendazole sulfoxide is 8 and a half hours. Albendazole sulfoxide and its metabolites seem to be mainly eliminated by biliary route and for a lower proportion by urinary route. Specific population Renal failure: albendazole pharmacokinetics has not been studied in patients with renal failure. Haptic failure: albendazole pharmacokinetics has not been studied in patients with hepatic failure.

5.3 Preclinical safety data

Degeneration of the seminiferous tubules has been reported in cancerogenesis studies at dose of 100 mg/kg/day in mouse and 20 mg/kg/day in rat. A decrease in the testicle weight has been observed in dog treated with 60 mg/kg/day during 6 months. These doses correspond respectively to 2.4; 0.24 and 2.5 times the maximum therapeutic dose (based on the human equivalence). Albendazole has not altered fertility in males or female rat up to the maximum dose of 30 mg/kg/day, or 0.36 times the maximum therapeutic dose (based on the human equivalence). Albendazole appeared to be teratogenic and embryotoxic in rat and rabbit. No cancerogenic potential has been was shown during the cancerogenesis studies in rats (20 mg/kg/day) and in mice (400 mg/kg/day). Albendazole did show any genotoxic effects in in vitro trials carried out on bacteria and mammal cells cultures, as well as in an in vivo micronucleus trial in rodents. A positive result has

been reported in another micronucleus study in omuse, and is regarded as resulting from an aneugenic effect of albendazole.

6. Pharmaceutical particulars

6.1 List of excipients

Lactose BP
Microcrystalline cellulose BP
Sodium Lauryl Sulphate BP
Maize starch BP
Sunset yellow colour IH
Povidone BP
Saccharin sodium BP
Purified talc BP
Sodium starch glycolate BP
Colloidal Anhydrous Silica BP
Flavor Orange IH
Magnesium Stearate BP
Purified water BP

6.2 Incompatibilities

None known

6.3 Shelf life

24 months

6.4 Special precautions for storage:

Store in a dry place below 30˚C. Protect from light.

6.5 Nature and contents of container

Alu-PVC blisters of 1 tablet contained in unit carton with patient information leaflet.

6.6 Special precautions for disposal and other handling:

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

7. Marketing authorization holder and manufacturing site addresses

Marketing authorization holder:
Dinlas Pharma EPZ Limited
Manufacturing site address:
Dinlas Pharma EPZ Limited
Mombasa Road Syokimau P.O Box 22661-00505
Nairobi-Kenya

8. Marketing authorization number

CTD10674

9. Date of first registration

04/08/2023

10. Date of revision of the text:
14/09/2023

11. Dosimetry:
Not Applicable

12. Instructions for Preparation of Radiopharmaceuticals:
Not Applicable