Summary of Product Characteristics

1. NAME OF THE MEDICINAL PRODUCT

1.1 Trade Name:

Mebaal ODS 1500
(MECOBALAMIN ORALLY DISINTEGRATING STRIPS 1500 mcg)

1.2 Strength: 1500 mcg

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

S. No.	Ingredients	Reference	Overages	Label Claim (mcg)	Quantity/ Strip (mg)	Function
1	Mecobalamin*	JP XVII	60.00%	1500.00	2.400	Active Ingredient
2	Hypromellose (Methocel E5 Celcential)	USP 42	--	–	19.200	Film forming polymer
3	Propyelene Glycol	BP 2019	--	–	3.000	Plasticizer
4	Simethicone	USP 42	--	–	2.500	Defoaming agent
5	Vitamin E dry powder 50%	IH	--	–	2.500	Antioxidant
6	Glycerin	USP 42	--	–	2.400	Plasticizer
7	Sucralose	USP 42 NF 37	--	–	1.000	Sweetener
8	Titanium dioxide	BP 2019	--	–	1.000	Opacifier
9	Mint oil (Dementholised Mint oil)	BP 2019	--	–	1.000	Flavoring agent
10	Purified water*	BP 2019	--	–	60.000	Vehicle
				Total	35.000	

Remark: *Overages added in order to compensate for loss on storage.

* Gets evaporated during manufacturing process.

3. PHARMACEUTICAL FORM

Red coloured, Rectangular, Opaque, Non-sticky orally disintegrating strips

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Mecobalamin is used in the treatment of Peripheral neuropathy & Diabetic neuropathy.

4.2 Posology and method of administration

Posology: 1500 mcg once or twice daily, or as recommended by a physician.

Method of administration:For oral use. The strip should be placed on tongue, let it dissolve and swallow the residue.

4.3 Contraindications

Hypersensitivity to mecobalamin or to any of the excipients listed.

4.4 Special warnings and precautions for use

The use of Mecobalamin in deficiency states or to treat any medical condition requires medical supervision. A typical dose as nutritional supplements used by pregnant woman and nursing mothers is 12 micrograms daily. Pregnant women and nursing mothers should only use doses higher than this if recommended by their physicians. Administration of doses greater than 10 micrograms daily may produce a hematological response in those with anemia secondary to folate deficiency.

4.5 Interaction with other medicinal products and other forms of interaction

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Cholestyramine: Cholestyramine may decrease the enterohepaticreabsorption of Mecobalamin.

Colchicine: Colchicine may cause decreased absorption of Mecobalamin.

Colestipol: Colestipol may decrease the enterohepatic Reabsorption of Mecobalamin.

H2 Blockers (cimetidine, famotidine, nizatidine, ranitidine): Chronic use of H2 blockers may result to decreased absorption of Mecobalamin. They are unlikely to affect the absorption of supplemental B12.

Metformin: Metformin may decrease the absorption of Mecobalamin. This possible effect may be reversed with oral calcium supplementation.

Nitrous oxide: Inhalation of the anesthetic agent nitrous oxide (not to be confused with nitric oxide) can produce a functional deficiency. Nitrous oxide forms a complex with cobalt in Mecobalamin, the cofactor for methionine synthase, resulting in inactivation of the enzyme.

Para-amino Salicylic Acid: Chronic use of the anti-tuberculosis drug may decrease the absorption of Mecobalamin.

Potassium chloride: It has been reported that potassium chloride may decrease the absorption of Mecobalamin.

Proton Pump Inhibitors (Lansoprazole, omeprazole, pantoprazole, Rabeprazole): Chronic use of proton pump inhibitors may result in decreased absorption, naturally found in food sources.

4.6 Fertility, pregnancy and lactationGeneral principles

Pregnancy: There are no data available for Mecobalamin to be used in pregnant women. Breast Feeding: There are no data available for Mecobalamin to be used in lactating women. Since vitamin B12 is distributed into breast milk, its use is usually compatible with breast feeding.

4.7 Effects on ability to drive and use machines

No detrimental effects on such activities are predicted from the pharmacology of Mecobalamin.

4.8 Undesirable effects

Anaphylactoid reaction: Anaphylactic reaction such as decrease in blood pressure or dyspnea may occur. Patient should be monitored after administration of dose.

4.9 Management of overdose

There are no reports of Mecobalamin overdosage in the literature.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Cobalamin Derivative
ATC code: B03BA05.

Mechanism of action:
Mecobalamin is the neurologically active form of vitamin B12 and occurs as a water-soluble vitamin in the body. It is a cofactor in the enzyme methionine synthase, which functions to transfer methyl groups for the regeneration of methionine from homocysteine. In anaemia, it increases erythrocyte production by promoting nucleic acid synthesis in the bone marrow and by promoting maturation and division of erythrocytes.

- Mecobalamin plays an important role in Transmethylation as a coenzyme of methionine synthesis of methionine from homocysteine.
- Mecobalamin is well transported to nerve cell organelles, and promotes nucleic acid and protein synthesis. It is better transported to nerve cell organelles than cyanocobalamin in animals.
- Mecobalamin promotes axonal regeneration. It normalizes axonal skeletal protein transport In Sciatic nerve cells from animal models with Streptozotocin-Induced diabetes mellitus. It exhibits neuropath logically and electrophysiologically inhibitory effects on nerve degeneration in neuropathies Induced by drugs, such as Adriamycin, acrylamide and vincristine models of axonal degeneration in mice and nauropathies in animals with spontaneous diabetes mellitus.
- Mecobalamin promotes myelination (phospholipid synthesis). It promotes the synthesis of lecithin, the main constituent of medullary sheath lipid and increases myelination if neuron in animal tissue culture more than cobalamide does.
- Mecobalamin restores delayed synaptic transmission and diminished neurotransmitters to normal. It restores end plate potential induction early by increasing nerve fiber excitability in crushed sciatic nerve. In addition, it also normalizes diminished brain tissue levels of acetylcholine in animals fed a choline-deficient diet.
- Mecobalamin promotes the maturation and division of erythroblasts, thereby alleviating anemia. It also promotes nucleic acid synthesis in bone marrow and promotes the maturation and division of erythroblasts, thereby increasing erythrocyte production.
- Mecobalamin brings about rapid recovery of diminished red blood cell, and hematocrit in vitamin B-12 deficient animals. Blood levels of patients indicate that sublingual Mecobalamin becomes available as early as 15 minutes after

administration and is still elevated at 24 hours. It is absorbed through the oral mucosa, which bypasses the need for it to bind with intrinsic factor in the stomach. 80% of B12 in the plasma is in the Mecobalamin form.

5.2 Pharmacokinetic properties

Naturally found B12 is dissociated from proteins in the stomach via the action of acid and the enzyme Pepsin. The forms B12 released by this process are Mecobalamin and adenosylcobalamin. All forms of B12 bind to proteins called haptocorrins or R proteins, which are secreted by the salivary glands and the gastric mucosa. This binding occurs in the stomach. Pancreatic proteases partially degrade the cobalamin-haptocorrins complexes in the small intestine where cobalamin that is released then binds to intrinsic factor (IF).Intrinsic factor is a glycoprotein which is secreted by gastric parietal cells. The cobalamin-intrinsic factor complex is absorbed from the terminal ileum into the ileal enetrocytes, cobalamin is released from the cobalamin-IF complex and then binds to another protein called transcobalamin ll that delivers it to the portal circulation. The portal circulation transports cobalamin to the liver which makes up about 50% of the vitamin; the remainder is transported to the other tissues of the body via the systemic circulation. The cobalamintranscobalamin II complex is degraded intracellularly via lysosomal proteases to yield cobalamin (cyanocobalamin, mecobalamin, adenosylcobalamin, hydroxocobalamin). Cobalamin is metabolized to Mecobalamin the cytosol and to adenosylcobalamin in the mitochondria.

Mecobalamin is the principal circulating form of cobalamin. Adenosylcobalamin comprises more than 70% of cobalamin in the liver, erythrocytes, kidney and brain. The total body content of cobalamin ranges from 2-3 mg, with approximately 50% of it residing in the liver.Mecobalamin in the circulation is bound to the plasma proteins transcobalamin I (TCI), transcobalamin II (TCII) and transcobalamin III (TCIII). Approximately 80% of plasma B12 is bound to TCI. TCII is the principal B12 binding protein for the delivery of B12 to cells, via specific receptors for TCII. This B12 binding protein (TCII) is identical to the one that delivers B12 from the enetrocytes to the portal circulation. Total absorption increases with increased intake of the vitamin. However, the absorption efficacy of the vitamin decreases with increased dosage. Significantly, very large doses of Mecobalamin are absorbed in the absence of intrinsic factor. Thus, large oral doses may be given for the treatment of deficiency instead of using the parenteral route (usually, intramuscularly). There are now several studies confirming this. The absorption efficiency of Mecobalamin from foods is approximately 50%. Mecobalamin is Secreted in the bile and reabsorbed via the enterohepatic circulation. Some of them, which are secreted in the bile, are excreted in the faces. Also, oral B12 that is not absorbed is excreted in the feces. Reabsorption of Mecobalamin via the enterohepatic circulation does not require the intrinsic factor. If the circulating level of B12 exceeds theB12 binding capacity of the blood, a situation that unusually occurs following parenteral administration of the vitamin, the excess is excreted in the urine.

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5.3 Preclinical safety data

Not available.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Hypromellose (Methocel E5 Celcential), Propylene Glycol BP, Simethicone, Vitamin E dry powder 50%, Glycerin, Sucralose, Titanium dioxide, Mint oil (Dementholised Mint oil) and Purified water.

6.2 Incompatibilities

Not Stated

6.3 Shelf life

24 Months

6.4 Special precautions for storage

Store below 30°C. Protect from light.

Keep out of reach and sight of children.

6.5 Nature and contents of container

Three layered Laminated Aluminium sachet
Ten sachets packed in a carton

6.6 Special precautions for disposal and other handling

No special requirements for disposal.

7. MARKETING AUTHORISATION HOLDER

Mega Lifesciences Public Company Limited
384 Moo 4, Pattana 3 Road,
Bangpoo Industrial Estate, Soi 6, Preaksa, Muang Samutprakarn,

Samutprakarn 10280, Thailand

8. MARKETING AUTHORISATION NUMBER(S)

TAN 22 HM 0052

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

January 10, 2022

10.DATE OF REVISION OF THE TEXT

April 2022