PRESCRIPTION MONOGRAPH

Compounded Active Ingredients: Mebendazole/Ivermectin
Form: Oral Capsule

Drug Class:

- Ivermectin: Macrocyclic lactone antiparasitic agent; Broad-spectrum antiviral
- Mebendazole: Broad-spectrum benzimidazole anthelmintic

Mechanism of Action[1,2,3]:

Both Menbendazole and Ivermectin have been studied for effects on tumor cell metabolism, apoptosis, angiogenesis, and Wnt/β-catenin signaling. This combination is intended to:

- Reduce multiplication of SARS-CoV-2 in cells, reducing viral RNA levels by more than 5,000 times in cell culture
- Bind glutamate-gated chloride channels in parasite nerve and muscle cells, causing hyperpolarization, paralysis, and death. In cancer models, ivermectin can modulate Wnt/β-catenin, Akt/mTOR, and other signaling pathways to inhibit proliferation and metastasis.
- Disrupt parasite microtubules by inhibiting β-tubulin polymerization, impairing glucose uptake and depleting parasite glycogen, leading to parasitic immobilization and death. In cancer models, mebendazole similarly may induce mitotic arrest and apoptosis via microtubule disruption.

Indications Commonly Prescribed for:

- Antiviral use (COVID-19)
- Oncology research

Before Use: Let your health care provider know if you have any medication allergies before you take this compounded preparation. Let your health care provider know if you have any liver or kidney problems. Let your healthcare provider know of all supplements you are currently taking.

Contraindications:

- Hypersensitivity to ivermectin or mebendazole

Cautions: Let your Healthcare provider know if you experience any adverse side effects.

How to Use: This compounded preparation is in the form of an oral capsule. Swallow the capsule whole with a glass of water. Do not chew or crush the capsule. If you miss a dose, take as soon as you remember, but not at the time for the next dose. The desired results may take up to several weeks.

Warnings and Precautions:

- Neurotoxicity risk at high doses or in sensitive individuals (e.g., encephalopathy)
- Viral infection requires higher concentration compared to standard antiparasitic dosing.
- Drinking alcohol can increase certain side effects of ivermectin.
- Hepatic function: Both metabolized hepatically; monitor in chronic liver disease.

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Adverse Reactions:

Common:

- Itching, skin rash
- GI Upset, Diarrhea
- Dizziness
- Headache

Rare

- Hypotension, tachycardia
- Seizures, encephalopathy
- Hepatotoxicity
- Neutropenia

Interactions:

- Potential interactions with CYP3A4 modulators and P-glycoprotein substrates, particularly relevant at higher doses.
- Strong CYP inducers (e.g., phenytoin, carbamazepine, rifampin): Can reduce mebendazole and ivermectin levels.
- Strong CYP inhibitors (e.g., azoles, macrolides): May increase exposure.
- Other hepatotoxic drugs: Additive risk for liver injury.
- Antiepileptics: Mebendazole may lower seizure threshold at high doses.

Use in Specific Populations:

- Pregnancy: Generally avoided unless essential.
- Pediatrics: Approved for children 5 years and older at parasitic doses
- Geriatrics: Use standard dosing; monitor renal/hepatic function
- Hepatic/Renal Impairment: Standard dosing is OK; high-dose antiviral use should be monitored

Storage:

- Store in original container at room temperature (up to 30°C or 86°F)
- Store in a cool dry place away from heat, sunlight, and moisture

Monitoring Parameters:

- Signs of neurotoxicity (e.g., CNS changes, seizures)
- Blood pressure and heart rate
- Liver and renal function with prolonged or high-dose use
- Oncology: Monitor with tumor imaging, LFTs, and clinical status

Citations:

1. Tang M, Hu X, Wang Y, Yao X, Zhang W, Yu C, Cheng F, Li J, Fang Q. Ivermectin, a potential anticancer drug derived from an antiparasitic drug. *Pharmacol Res*. 2021;163:105207. doi:10.1016/j.phrs.2020.105207
2. The FDA-approved drug ivermectin inhibits the replication of SARS-CoV-2 in vitro Antiviral Research Volume 178
3. Sasaki J-I, Ramesh R, Chada S, Gomyo Y, Roth JA, Mukhopadhyay T. The anthelmintic drug mebendazole induces mitotic arrest and apoptosis by depolymerizing tubulin in non-small cell lung cancer cells. *Mol Cancer Ther*. 2002;1(13):1201-1209. doi:10.1158/1535-7163.MCT-02-0042