PRESCRIPTION MONOGRAPH

Compounded Active Ingredients: 5-Amino-1MQ
Form: Oral Capsule

Drug Class:

- Selective Nicotinamide N-methyltransferase (NNMT) Inhibitor

Mechanism of Action[1,2]**:** 5-Amino-1MQ is a small, membrane-permeable molecule that can selectively inhibit NNMT, an enzyme involved in methylating nicotinamide using S-adenosylmethionine (SAM) as a methyl donor. Inhibition of NNMT can potentially lead to:

- Increased intracellular NAD^+ levels, enhancing cellular energy metabolism.
- Preservation of SAM, supporting epigenetic regulation and gene expression.
- Activation of SIRT1, promoting mitochondrial function and metabolic efficiency.
- Upregulation of GLUT4 expression, improving glucose uptake and insulin sensitivity.

These effects are intended to collectively contribute to enhanced metabolic function, reduced adiposity, and improved insulin sensitivity.

Indications Commonly Prescribed for:

- Obesity: Reduction of adipose tissue mass and improvement in lipid profiles.
- Type 2 Diabetes Mellitus: Enhancement of insulin sensitivity and glucose tolerance.
- Metabolic Syndrome: Modulation of metabolic pathways to improve overall metabolic health.
- Muscle Regeneration: Activation of muscle stem cells, aiding in muscle repair and growth.
- Anti-Aging: Potential benefits through increased NAD^+ levels and sirtuin activation.

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:

- Known hypersensitivity to 5-Amino-1MQ.
- Pregnant or breastfeeding individuals.
- Individuals with severe hepatic or renal impairment.

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:

- Sleep Disturbances: Some users report insomnia; evening dosing should be avoided.
- Allergic Reactions: Monitor for signs of hypersensitivity.
- Liver and Kidney Function: Use caution in individuals with hepatic or renal impairment; effects on these organs have not been fully studied.
- Pregnancy and Lactation: Safety has not been established; use is not recommended.

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Adverse Reactions:

- Insomnia
- Headache
- Gastrointestinal discomfort

Interactions: Due to its influence on methylation pathways and NAD^+ metabolism, caution is advised when used concurrently with:

- Methylation-affecting agents.
- NAD^+ precursors or boosters.
- Medications metabolized by pathways influenced by NNMT activity.

Use in Specific Populations:

- Pediatrics: Safety and efficacy have not been established.
- Geriatrics: Potential benefits in age-related metabolic decline; monitor for tolerability.
- Hepatic/Renal Impairment: Use with caution; insufficient data available.

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:

- Metabolic markers: Weight, lipid profile, blood glucose levels.
- Liver and kidney function tests: Periodic monitoring recommended.
- Sleep patterns: Assess for disturbances, especially with evening dosing.

Citations:

1. Dimet-Wiley, A., Wu, Q., Wiley, J.T. et al. Reduced calorie diet combined with NNMT inhibition establishes a distinct microbiome in DIO mice. Sci Rep 12, 484 (2022). https://doi.org/10.1038/s41598-021-03670-5 2.
2. Neelakantan H, Vance V, Wetzel MD, Wang HL, McHardy SF, Finnerty CC, Hommel JD, Watowich SJ. Selective and membrane-permeable small molecule inhibitors of nicotinamide N-methyltransferase reverse high fat diet-induced obesity in mice. Biochem Pharmacol. 2018 Jan;147:141-152. doi: 10.1016/j.bcp.2017.11.007. Epub 2017