5-AMINO-1MQ

Selective NNMT Inhibitor

What is 5-Amino-1MQ?

5-Amino-1MQ is a small molecule drug designed to inhibit the enzyme nicotinamide N-methyltransferase (NNMT). Key points:

- **Structure**: Quinoline ring with an amino group at position 5 and a methyl group at position 1
- Developed as a selective NNMT inhibitor
- Primarily studied for its effects on metabolism and weight loss
- Not FDA-approved; currently used in research settings

5-Amino-1MQ Mechanism of Action

5-Amino-1MQ works through several mechanisms:

1. Inhibits NNMT, an enzyme predominantly active in fat tissue
2. Increases nicotinamide adenine dinucleotide (NAD^+) levels
3. Activates sirtuin-1 (SIRT1), also known as "the longevity gene"
4. Enhances cellular metabolism and energy expenditure
5. Promotes fat burning while preserving muscle mass
6. Regulates energy expenditure in fat cells
7. May increase NAD^+ and S-adenosyl methionine (SAM) concentrations in fat cells

Research Applications and Potential Benefits of 5-Amino-1MQ

5-Amino-1MQ and Weight Loss

- Promotes fat loss while preserving muscle mass
- May reverse diet-induced obesity
- Enhances metabolic rate and fat burning

5-Amino-1MQ and Metabolic Health

- Potential treatment for type 2 diabetes and metabolic syndrome
- May improve insulin sensitivity
- Could lower cholesterol levels and improve blood sugar control

5-Amino-1MQ and Muscle Health

- Enhances aged muscle regeneration
- May promote muscle growth and recovery
- Potential benefits for sarcopenia (age-related muscle loss)

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