



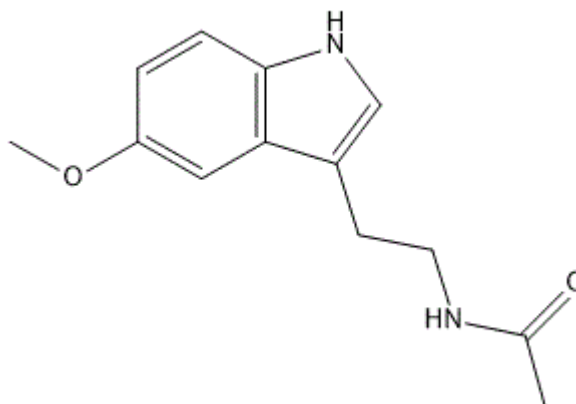
## Product Information Sheet

### M5520 Melatonin

Synonyms: N-Acetyl-5-methoxytryptamine  
CAS: 73-31-4  
Formula: C<sub>13</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>  
Mol. Weight: 232.28 g/mol

#### Properties:

Form: Powder  
Appearance: White Powder  
Application: Plant Growth Regulator  
Solubility: Water  
Storage Temp: -20°C  
Typical Working Concentration: Varies by application. Concentration should be determined by end user.  
Other Notes: Plant Tissue Culture Tested.



#### Application Notes:

Initially discovered in animals and later found in a majority of plant species, indoleamine neurotransmitter Melatonin is a multifunctional signaling molecule. Some of these functions include roles in plant defense, growth, development, responses to stress, antioxidant activity, and many more (Erland *et al.* 2017) Evidence indicates Melatonin and Serotonin have a relationship similar to how the interaction of cytokinin and auxin affect plant growth (Murch *et al.* 2001).

Please Note: While *PhytoTechnology Laboratories*™ tests each lot of this product with two or more plant cell/ tissue culture lines, it is the sole responsibility of the purchaser to determine the appropriateness of this product for the specific plants that are being cultured and applications that are being used.

#### References:

Erland LAE, Saxena PK, and SJ Murch (2017) Melatonin in plant signaling and behavior. *Functional Plant Biology*. <http://dx.doi.org/10.1071/FP16384>

*Merck* **13**, 5838

Murch SJ, Campbell SSB, and PK Saxena (2001) The Role of Serotonin and Melatonin in Plant Morphogenesis: Regulation of Auxin-Induced Root Organogenesis in in vitro-Cultured Explants of St. John's Wort (*Hypericum perforatum* L.). *In Vitro Cell. Dev. Biol.- Plant*. Vol. 37(6):786-793