

PRODUCT INFORMATION



Abamectin

Item No. 19201

CAS Registry No.: 71751-41-2

Formal Name: **Avermectin B_{1a}**: (10E,14E,16E)-(1R,4S,5'S,6S,6'R,8R,12S,13S,20R,21R,24S)-6'-[(S)-sec-butyl]-21,24-dihydroxy-5',11,13,22-tetramethyl-2-oxo-(3,7,19-trioxatetracyclo[15.6.1.14.8.020,24]pentacosa-10,14,16,22-tetraene)-6-spiro-2'-(5',6'-dihydro-2'H-pyran)-12-yl 2,6-dideoxy-4-O-(2,6-dideoxy-3-O-methyl- α -L-arabino-hexopyranosyl)-3-O-methyl- α -L-arabino-hexopyranoside

Avermectin B_{1b}: (10E,14E,16E)-(1R,4S,5'S,6S,6'R,8R,12S,13S,20R,21R,24S)-21,22-dihydroxy-6'-isopropyl-5',11,13,22-tetramethyl-2-oxo-(3,7,19-trioxatetracyclo[15.6.1.14.8.020,24]pentacosa-10,14,16,22-tetraene)-6-spiro-2'-(5',6'-dihydro-2'H-pyran)-12-yl 2,6-dideoxy-4-O-(2,6-dideoxy-3-O-methyl- α -L-arabino-hexopyranosyl)-3-O-methyl- α -L-arabino-hexopyranoside

Synonyms: Avermectin B₁, Avermectin B_{1a} (~80%) and Avermectin B_{1b} (~20%) Mixture, MK-936, Rustomectin

MF: C₄₈H₇₂O₁₄ (for Avermectin B_{1a})

FW: 873.1

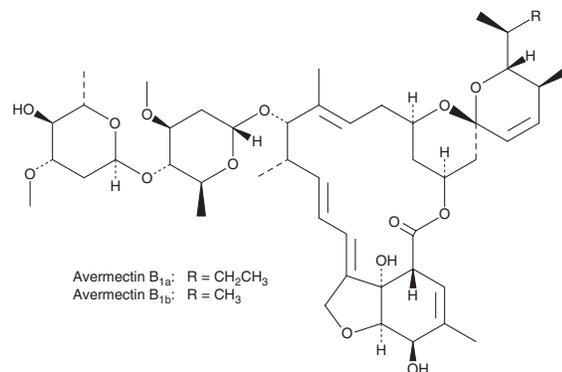
Purity: $\geq 95\%$

Supplied as: A crystalline solid

Storage: 22°C

Stability: ≥ 4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.



Laboratory Procedures

Abamectin is supplied as a crystalline solid. Abamectin is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Abamectin is a mixture of the natural macrocyclic lactones avermectin B_{1a} and avermectin B_{1b} (Item No. 17453). It has both insecticidal and anthelmintic actions and is used in both agriculture and veterinary medicine.¹⁻⁴ Abamectin can inhibit nicotinic acetylcholine receptors of worms.⁵ It can also inhibit chikungunya virus (EC₅₀ = 1.5 μ M) and yellow fever virus.⁶ Formulations containing abamectin have been used in the control of insects in agriculture.

References

1. Bai, S.H. and Ogbourne, S. *Chemosphere* **154**, 204-214 (2016).
2. Kaplan, R.M., Courtney, C.H., Kunkle, W.E., et al. *Am. J. Vet. Res.* **55**(3), 353-357 (1994).
3. Koehler, P.G., Atkinson, T.H., and Patterson, R.S. *J. Econ. Entomol.* **84**(6), 1758-1762 (1991).
4. Lumaret, J.-P., Errouissi, F., Floate, K., et al. *Curr. Pharm. Biotechnol.* **13**(6), 1004-1060 (2012).
5. Abongwa, M., Buxton, S.K., Robertson, A.P., et al. *PLoS One* **11**(1), (2016).
6. Varghese, F.S., Kaukinen, P., Gläsker, S., et al. *Antiviral Res.* **126**, 117-124 (2016).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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