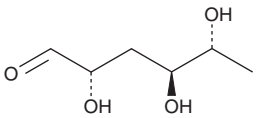
PRODUCT INFORMATION

Tyvelose

Item No. 20910

CAS Registry No.: 5658-12-8
Formal Name: 3,6-dideoxy-D-arabino-hexose
Synonym: D-Tyvelose
MF: $C_6H_{12}O_4$
FW: 148.2
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Tyvelose is supplied as a crystalline solid. A stock solution may be made by dissolving the tyvelose in the solvent of choice, which should be purged with an inert gas. Tyvelose is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of tyvelose in ethanol is approximately 10 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of tyvelose can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of tyvelose in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Tyvelose is an unusual 3,6-dideoxyhexose terminal sugar and the immunodominant component of glycoprotein antigens in the parasitic helminth *T. spiralis*, which is responsible for trichinosis in humans.[1,2] It is produced in high amounts by the infective larva and is immunodominant during the muscle stage of infection. Mice immunized with tyvelose-BSA produce IgG1 antibodies to tyvelose but are not resistant to infection by *T. spiralis*.[2] Tyvelose-specific antibodies (2.5 mg/20 g) administered to rat pups leads to expulsion of first stage larvae from the intestine within one hour.[3]

References

1. Wisnewski, N., McNeil, M., Grieve, R.B., *et al.* Characterization of novel fucosyl- and tyvelosyl-containing glycoconjugates from *Trichinella spiralis* muscle stage larvae. *Mol. Biochem. Parasitol.* **61(1)**, 25-35 (1993).
2. Goyal, P.K., Wheatcroft, J., and Wakelin, D. Tyvelose and protective responses to the intestinal stages of *Trichinella spiralis*. *Parasitol. Int.* **51(1)**, 91-98 (2002).
3. Blum, L.K., Mohanan, S., Fabre, M.V., *et al.* Intestinal infection with *Trichinella spiralis* induces distinct, regional immune responses. *Vet. Parasitol.* **194(2-4)**, 101-105 (2013).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM