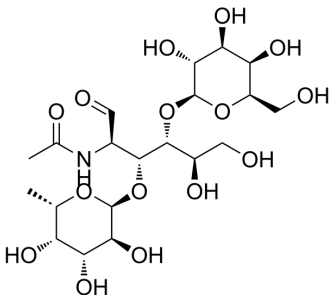
Lewis X trisaccharide

Cat. No.:	HY-N10534
CAS No.:	71208-06-5
Molecular Formula:	$C_{20}H_{35}NO_{15}$
Molecular Weight:	529.49
Target:	Parasite
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Lewis X trisaccharide (Lewis X, Le^X) is a potent T_H2 regulator, antagonizes LPS-induced IL-12 immune expression. Lewis X trisaccharide is a human histo-blood group antigen, plays an key role in cell-cell adhesion, and servers as a tumor marker. Lewis X trisaccharide is highly expressed in the outer membrane of the parasite, can be used for the immunology research of schistosomiasis[1][2][3].
IC_{50} & Target	Schistosome
In Vitro	Lewis X trisaccharide-BSA (25 μg/mL; 30 min; before LPS stimulation of 10 ng/mL for 4 h) IL-12p40 and suppresses IL-12p70 protein expression induced by Lipopolysaccharide (LPS, HY-D1056)[1]. Lewis X trisaccharide (2 μM; 30 min; before LPS stimulation of 10 ng/mL for 2 h) decreases nuclear NF-κB concentration in mice bone marrow derived dendritic cells (BDDCs)[1]. Lewis X trisaccharide-BSA (25 μg/mL; 48 h) or Lewis X trisaccharide (5 μg/mL; 48 h) plus ovalbumin (OVA, 25 μg/mL) increases cytokines (IL-4, IL-13, and INF-γ) level in mice splenocytes[1]. Lewis X trisaccharide-containing glycoconjugates stimulates B cells to proliferate and to produce factors that down-regulates the TH_1 immune response and up-regulates the T_H2 immune response[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Lewis X trisaccharide (5 μg, combinded with 50 μg ovalbumin; s.c.; once a week for 2 weeks) regulates IgE/T_H2 responses, and selectively increases the IgE and IgG1 responses in C3H mice, independent of the LPS-TLR4 signaling[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Mice (BALB/c, IL-12 deficient on a BALB/c background, TLR4-defective C3H/hej, or TLR4-wild type C3H/HeOuj mice) (6-8 weeks old)[1]
Dosage:	5 μg, combinded with 50 μg ovalbumin
Administration:	Subcutaneous injection; once a week for 2 weeks
Result:	In C3H mice, coupled with BSA (Le^X-BSA) and elicited higher levels of specific IgE and IgG1, but not IgG2a, which were associated with increased levels of splenic T_H2 cytokines when compared with those seen in BSA-sensitized mice. In BALB/c mice, induced by ovalbumin, significantly increased levels of specific IgE,

	resulted IgG2a antibodies concomitant with reduced levels of serum IL-12p70. In IL-12-deficient BALB/c mice, attenuated the downward trend of the above indicators.

REFERENCES

[1]. Hsu SC, et al. Antigen coupled with Lewis-x trisaccharides elicits potent immune responses in mice. J Allergy Clin Immunol. 2007 Jun;119(6):1522-8.

[2]. van Roon AM, et al. Structure of an anti-Lewis X Fab fragment in complex with its Lewis X antigen. Structure. 2004 Jul;12(7):1227-36.

[3]. Topin J, et al. The Hidden Conformation of Lewis x, a Human Histo-Blood Group Antigen, Is a Determinant for Recognition by Pathogen Lectins. ACS Chem Biol. 2016 Jul 15;11(7):2011-20.

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