Product Data Sheet

Product Name: HBcAg [Hepatitis B virus] (18-27)
Cat. No.: GP10047

Chemical Properties

Cas. No.			
SMILES	N[C@H](C(N[C@H](C(N1[C@@H](CCC1)C(N[C@@H](CO)C(N[C@H](C(N[C@@H](CC2=CC=CC=C2)C(N[C@@H](CC3=CC=CC=C3)C(N4[C@@H](CCC4)C(N[C@H](C(N[C@H](C(O)=O)C(C)C)=O)CO)=O)=O)=O)=O)CC(O)=O)=O)=O)=O)CC(C)C)=O)CC5=CC=CC=C5		
Formula	$C_{58}H_{78}N_{10}O_{15}$	M.Wt	1155.3
Solubility	≥ 115.5mg/mL in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	HBcAg [Hepatitis B virus] (18-27)		

Background

HBcAg (core antigen) is a hepatitis B viral protein[1,2]. It is an indicator of active viral replication; this means the person infected with Hepatitis B can likely transmit the virus on to another person.HBeAg is the extracellular form of HBcAg, hence why the presence of both are markers of viral replication, and antibodies to these antigens are markers of a decline in replication.Multiple protein products can be produced from the same DNA sequence. When "ORF Core" and "Pre C" are translated together, the result is "HBeAg".Whereas HBcAg is considered "particulate", "HBeAg" is considered "nonparticulate" or "secretory".Both HBeAg and HBcAg are made from the same reading frame, but HBeAg is secreted from cells and accumulates in serum as an immunologically distinct soluble antigen. HBeAg is secreted and found in the serum of patients and serves as a marker of active replication in chronic hepatitis. Although the function of HBeAg is not clearly understood, one study demonstrated that it downregulated Toll-like receptor 2 expression on hepatocytes and monocytes leading to a decrease in cytokine expression. HBeAg is dispensable for replication, as mutant viruses with defects in the pre-C region are both infectious and pathogenic[3].

References:
1. Kimura T, Rokuhara A, Matsumoto A, et al. (May 2003). "New enzyme immunoassay for detection of hepatitis B virus core antigen (HBcAg) and relation between levels of HBcAg and HBV DNA". J. Clin. Microbiol. 41 (5): 1901-6.
2. Cao T, Meuleman P, Desombere I, S?llberg M, Leroux-Roels G (December 2001). "In vivo inhibition

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

of anti-hepatitis B virus core antigen (HBcAg) immunoglobulin G production by HBcAg-specific CD4(+) Th1-type T-cell clones in a hu-PBL-NOD/SCID mouse model". J. Virol. 75 (23): 11449-56.
3. Mandell,Douglas, and Bennett's Principles and Practice of Infectious Diseases. 7th ed. page 2062

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA