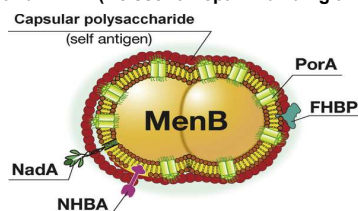


Product Specification Sheet

Neisserial meningitis B Heparin Binding Antigen Antibodies and controls

□ Cat # MBNH31-S	Rabbit Anti-Meningitis B Neisserial Heparin Binding Antigen (MenB NHBA) antiserum	SIZE: 100 ul
□ Cat # MBNH31-C	Recombinant Meningitis B Neisserial Heparin Binding Antigen (MenB NHBA) protein control for western blot	SIZE: 100 ul

Meningococcal meningitis, a form of meningococcal disease, which is a serious bacterial infection, is caused by bacteria called *Neisseria meningitidis* also known as meningococcus. It causes meningitis, meningococemia, septicemia, and rarely carditis, septic arthritis, or pneumonia. It can potentially kill an otherwise healthy young person within a few days after the first symptoms appear. *N. meningitidis* colonizes the mucosa of the nasopharynx in 5 to 10% of the population, and in susceptible individuals the bacterium can cross the epithelial layer into the bloodstream, causing septicemia and/or meningitis. Meningitis is life-threatening because of the inflammation's proximity to the brain and spinal cord; therefore the condition is classified as a medical emergency. *Neisseria meningitidis* has 13 clinically significant serogroups classified according to the antigenic structure of their polysaccharide capsule. Six serogroups, A, B, C, Y, W135 and X are responsible for virtually all cases of the disease in humans. The capsular polysaccharide of Men B is a self antigen that cannot be used to make a vaccine. The antigens selected by reverse vaccinology were prioritized based on their ability to induce broad protection. The proteins that met these criteria were called **Genome-derived Neisseria Antigens**. The most abundant antigen is **Porin A (PorA)** determines the serosubtype which is variable and induces only strain-specific protection. Less abundant but more conserved antigens are **fHbp (factor H-binding protein)** **NadA (Neisseria adhesin A)** and **NHBA (Neisseria heparin-binding antigen)**.



fHbp (GNA1870, 282 aa) is a surface exposed lipoprotein that binds human factor H, enhancing the ability of the bacterium to resist complement-mediated killing. It is classified into 3 genetic and immunogenic variants: fHbp-1, fHbp-2 and fHbp-3, which are not cross-

protective. **NadA (GNA1994, 362 a.a)** is an adhesin that was included in the MenB vaccine as single trimeric soluble protein, devoid of the membrane anchor domain. NadA is well conserved, and five variants have been identified. NadA-1, NadA-2, and NadA-3 show highly conserved sequences. NadA-4 and NadA-5 are less common, and are associated with carrier strains. **NHBA (GNA2132, 427 a.a)** is a surface-exposed lipoprotein which binds heparin in vitro through an arginine-rich region. The NHBA domain fold consists of an 8-strand β-barrel that closely resembles the C-terminal domains of *N. meningitidis* factor H-binding protein and transferrin-binding protein B. This common fold together with more subtle structural similarities suggest a common ancestor for these important antigens and a role of the β-barrel fold in inducing immunogenicity against *N. meningitidis*.

Bexsero® a four-component vaccine (called **4CMenB**) is the first broadly effective MenB vaccine for all age groups, including infants who are among the most vulnerable. Current vaccines [Menveo® (Novartis) and Menactra® (sanofiPasteur)] available for the other four major disease causing meningococcal serogroups (A, C, Y and W135) were developed by using the outer polysaccharide capsule as an antigen target.

Source of Antigen and Antibodies

Antigen	Recombinant purified meningitis B Heparin Binding Antigen (cat# MBNH35-R-10)
Ab Host/type	Rabbit, Polyclonal antiserum (cat#MBNH31-S) supplied in 0.1% azide as preservative.
2-Ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates)
-ve control IgG	#20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control.

Cat # MBNH31-C, Positive Control

Men B NHBA protein was expressed in *E. Coli* as a his-tag fusion protein (full length, >95%, ~43 kDa). Purified protein for Western blot +ve control (cat# **MBNH31-C**) is supplied in SDS-PAGE. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should re dissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the # **MBNH31-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

Form & Storage of Antibodies/Peptide Control

Antiserum

□ 100 ul □ solution □ lyophilized powder

Buffer: PBS+0.1% azide

Reconstitute powder 100 ul of PBS.

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting: An initial dilution of 1:500-2K is recommended for Western. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions.

ELISA (1:10-50K; using 50-100 ng antigen/well).

Histochemistry & Immunofluorescence: not tested.

Specificity & Cross-reactivity: This Antibody reacts with Men B Neisserial Heparin Binding Antigen and recombinant protein. Cross reactivity with other proteins has not been established. Antibodies and recombinant proteins for Men B antigens are available for control studies.

References: Veronica E (2011) J Biol Chem 286: 41767-41775; David M. Vu (2011) Vaccine 29: 1968-1973. Miguel O (2014) Drugs :74: 15-30.; Seil KL (2009) Infect Immun. 77(1): 292-299. Massignani (2003) JEM 197 (6): 789

*This product is for In vitro research use only.

Related material available from ADI

Catalog#	Prod Description
MBFH11-HNC	Human Meningitis B factor H binding protein (MenB fHbp) antibody negative control serum
MBFH11-HPC	Human Meningitis B factor H binding protein (MenB fHbp) antibody positive control serum
MBFH15-R-10	Recombinant (<i>E.coli</i>) Meningitis B factor H binding protein (his tag, 35 kDa) purified
MBNA21-C	Recombinant Meningitis B Neisserial adhesin A (MenB Nad A) protein control for western blot
MBNA21-S	Anti-Meningitis B Neisserial adhesin A (MenB Nad A) antiserum
MBNA25-R-10	Recombinant (<i>E.coli</i>) Meningitis B Neisserial adhesin A (MenB NadA) protein (his tag, 36 kDa) purified
MBNH31-C	Recombinant Meningitis B Neisserial Heparin-Binding Antigen (MenB NHBA) protein control for western blot
MBNH31-HNC	Human Meningitis B neisserial heparin-binding antigen (MenB NHBA) antibody positive control serum
MBNH31-HPC	Human Meningitis B neisserial heparin-binding antigen (MenB NHBA) antibody positive control serum
MBNH31-S	Anti-Meningitis B Neisserial Heparin-Binding Antigen (MenB NHBA) antiserum
MBNH35-R-10	Recombinant (<i>E.coli</i>) Meningitis B neisserial adhesin A (MenB NadA) protein (his tag, 43 kDa.) purified
600-950-H4G	Human Anti-Meningitis B antigens (PorA+NADA+fHbp+NHBA) combo IgG ELISA kit, 96 tests
600-955-M4G	Mouse Anti-Meningitis B antigens (Por A+NADA +fHbp+ NHBA) combo IgG ELISA kit, 96 tests
600-900-HNG	Human Anti-Meningitis B Neisserial adhesin A (NadA) IgG ELISA kit, 96 tests
600-905-MNG	Mouse Anti-Meningitis B Neisserial adhesin A (NadA) IgG ELISA kit, 96 tests

MBNH31-S-MenB-Neisserial-Heparin 151124SV