Approval Date: October 24, 2019

Product: BEXSERO

Proper Name: Meningococcal Group B Vaccine

Manufacturer: Novartis Vaccines and Diagnostics, Inc

Indication: Active immunization to prevent invasive disease caused by Neisseria meningitidis serogroup B in individuals 10 through 25 years of age.

Description: BEXSERO (Meningococcal Group B Vaccine) is a sterile, white, opalescent, suspension for intramuscular injection. Each 0.5-mL dose of BEXSERO is formulated to contain 50 micrograms each of recombinant proteins Neisserial adhesin A (NadA), Neisserial Heparin Binding Antigen (NHBA), and factor H binding protein (fHbp), 25 micrograms of Outer Membrane Vesicles (OMV), 1.5 mg aluminum hydroxide (0.519 mg of Al3+), 3.125 mg sodium chloride, 0.776 mg histidine, and 10 mg sucrose at pH 6.4 – 6.7.

BLA: BL 125546

Regulatory Milestone:

CBER determined that BEXSERO met the criteria for Breakthrough Therapy designation and granted that designation on April 1, 2014. On July 24, 2014, Novartis Vaccines and Diagnostics Inc., submitted a BLA for BEXSERO.

PDUFA Goal Date: March 24, 2015

Package Insert: Package Insert - BEXSERO

Summary Basis for Regulatory Approval: January 23, 2015 Summary Basis for Regulatory Action - BEXSERO

European Public Assessment Report: Human medicine European public assessment report (EPAR): Bexsero

Advisory Committee:

An advisory committee meeting was not convened during the review of this original BLA. A VRBPAC meeting was held April 7, 2011, to discuss approaches to demonstrate effectiveness of meningococcal serogroup B vaccines. At this meeting, the committee concluded that serum bactericidal antibody levels induced by a meningococcal serogroup B vaccine as measured by hSBA assays are an appropriate measure of vaccine effectiveness. The committee agreed that genetic diversity and range of the level of expression of surface proteins among meningococcal group B strains adds an additional challenge to ascertaining effectiveness of meningococcal group B vaccines, such as BEXSERO, against the diverse population of circulating serogroup B strains. The committee discussed possible strategies for assessing breadth of coverage of a meningococcal serogroup B vaccine. Novartis will further address breadth of coverage as part of their confirmatory studies.

Safety:

The applicant has committed to submit the clinical study report from a safety and immunogenicity study to assess concomitant use of BEXSERO with a second dose of Meningococcal (Groups A, C, Y, and W-135) Oligosaccharide Diphtheria CRM197 Conjugate vaccine in persons 16 years through18 years of age.

NCT Numbers:

- NCT02569632
- NCT04166656
- NCT03632720
- NCT02482636
- NCT04415424
- NCT01478347
- NCT00808028
- NCT02946385
- NCT03089086
- NCT04297436
- NCT02712177
- NCT02640677
- NCT03682939
- NCT04084769
- NCT01139021
- NCT04502693
- NCT02173704
- NCT04398849
- NCT04440163
- NCT03587207
- NCT02583412
- NCT00937521
- NCT01717638
- NCT02080559
- NCT03125616
- NCT00443157
- NCT02491463
- NCT00197795
- NCT03509051
- NCT00847145
- NCT02141516
- NCT00297817
- NCT04295733
- NCT00798304
- NCT01423084
- NCT02446743
- NCT04350138
- NCT03135834
- NCT01911221
- NCT00137917
- NCT02398396
- NCT03621670
- NCT01339923
- NCT04645966
- NCT01894919
- NCT00657709
- NCT01214850
- NCT04707391
- NCT04094883
- NCT00944034
- NCT01973218
- NCT04023929
- NCT00962624
- NCT00433914
- NCT00381615
- NCT02975596
- NCT04239430
- NCT00661713
- NCT02305446
- NCT03636906
- NCT04597424
- NCT00560313
- NCT00879814
- NCT04515368
- NCT02106390
- NCT00780806
- NCT02534935
- NCT02451514
- NCT02212457
- NCT00721396
- NCT00297687
- NCT03419533
- NCT04318548
- NCT03493919
- NCT02868970

EudraCT Numbers:

- 2014-003822-42
- 2014-002972-95
- 2013-002451-15
- 2019-002829-29
- 2016-003268-37
- 2013-002454-78
- 2019-000924-17
- 2020-000948-60
- 2017-000665-79
- 2017-004609-42
- 2018-003451-38
- 2016-003526-16
- 2017-001487-38
- 2017-002919-33
- 2016-005117-44
- 2017-004732-11
- 2017-000093-11
- 2012-005815-25
- 2017-004520-30
- 2019-004461-41
- 2014-004476-30
- 2014-000126-38
- 2015-000817-32
- 2012-000657-30

- 2012-003937-41
- 2017-005128-12
- 2018-000431-27
- 2016-003722-16
- 2019-002585-12
- 2016-002230-69
- 2019-001666-15
- 2010-021528-81

Publications:

- Snape, M. D., Saroey, P., John, T. M., Robinson, H., Kelly, S., Gossger, N., Yu, L. M., Wang, H., Toneatto, D., Dull, P. M., & Pollard, A. J. (2013). Persistence of bactericidal antibodies following early infant vaccination with a serogroup B meningococcal vaccine and immunogenicity of a preschool booster dose. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*, *185*(15), E715–E724. https://doi.org/10.1503/cmaj.130257
- Prymula, R., Esposito, S., Zuccotti, G. V., Xie, F., Toneatto, D., Kohl, I., & Dull, P. M. (2014). A phase 2 randomized controlled trial of a multicomponent meningococcal serogroup B vaccine (I). *Human vaccines & immunotherapeutics*, *10*(7), 1993–2004. https://doi.org/10.4161/hv.28666
- Esposito, S., Prymula, R., Zuccotti, G. V., Xie, F., Barone, M., Dull, P. M., & Toneatto, D. (2014). A phase 2 randomized controlled trial of a multicomponent meningococcal serogroup B vaccine, 4CMenB, in infants (II). *Human vaccines & immunotherapeutics*, *10*(7), 2005–2014. https://doi.org/10.4161/hv.29218
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- Vesikari, T., Wysocki, J., Beeslaar, J., Eiden, J., Jiang, Q., Jansen, K. U., Jones, T. R., Harris, S. L., O'Neill, R. E., York, L. J., & Perez, J. L. (2016). Immunogenicity, Safety, and Tolerability of Bivalent rLP2086 Meningococcal Group B Vaccine Administered Concomitantly With Diphtheria, Tetanus, and Acellular Pertussis and Inactivated Poliomyelitis Vaccines to Healthy Adolescents. *Journal of the Pediatric Infectious Diseases Society*, *5*(2), 180–187. https://doi.org/10.1093/jpids/piv064

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