Supplemental Digital Content 2. Tables - Results for participants in groups receiving MenABCWY¼ in the primary or extension study

Table S2_1. Demographic and baseline characteristics for participants in groups receiving MenABCWY¼ in the primary or extension study

	ABCWY¼/ ABCWY¼	ABCWY¼/ placebo	4CMenB/ ABCWY¼	ACWY/ ABCWY¼
N	17	24	21	19
Age ± SD, years	18±5.05	19±5.4	19.7±5.36	19.2±6.1
Female, n (%)	9 (53%)	14 (58%)	15 (71%)	12 (63%)
Geographic ancestry, n (%)				
Asian			1 (5%)	
Black/African American	1 (6%)	4 (17%)	1 (5%)	1 (5%)
White	16 (94%)	20 (83%)	19 (90%)	17 (90%)
Other				1 (5%)
Height ± SD, cm	171.5±12.55	168.5±9.4	165.3±7.45	163.5±9.59
Weight ± SD, kg	70.1±14.12	66±14.84	66.9±16.42	64.5±14.86
Body mass index± SD, kg/m^2	23.9±4.22	23.1±3.96	24.6±6.38	24.1±5.4

N, number of participants in each group; n (%), number (percentage) of participants in each category; SD, standard deviation.

Table S2_2. Seroresponse rate at 1 month post-booster against serogroups A, C, W and Y (Day 30 FAS for immunogenicity)

	ABCWY¼/ABCWY¼		4CMenB/nABCWY¼		ACWY/ABCWY¼	
	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)
Serogroup A	16	94 (69.8–99.84)	21	86 (63.7–97.0)	16	94 (69.8–99.84)
Serogroup C	10	100 (69.2–100)	16	81 (54.4–96.0)	18	78 (52.4–93.6)
Serogroup W	13	85 (54.6–98.1)	19	68 (43.4–87.4)	17	76 (50.1–93.2)
Serogroup Y	14	100 (76.8–100)	21	62 (38.4–81.9)	18	89 (65.3–98.6)

FAS, full analysis set; CI, confidence interval; N, number of participants with evaluable serum samples in each group. Seroresponse rate defined as the proportion of subjects with ≥4-fold increase in human serological bactericidal assay titres from a baseline titer ≥4, or a titer of ≥8 from a baseline titer <4; baseline was 24 months post-primary series.

Table S2_3. GMTs and GMRs from extension baseline to 1 month post-booster against serogroups A, C, W and Y (Day 30 FAS for immunogenicity)

	ABCWY¼/ABCWY¼		ABCWY¼/placebo		4CMenB/ABCWY¼		ACWY/ABCWY¼	
	N	GMT/GMR (95%CI)	N	GMT/GMR (95%CI)	N	GMT/GMR (95%CI)	N	GMT/GMR (95%CI)
Serogroup A								
Extension baseline GMT	16	2.86 (1.23–6.63)	22	2.73 (1.41–5.27)	21	3.94 (1.58–9.85)	16	2.09 (1.28–3.41)
1M post–booster GMT	16	333 (199–559)	22	3.07 (1.51–6.25)	21	416 (198–871)	17	46 (24–87)
1M post–booster GMR	16	117 (54–252)	22	1.13 (0.89–1.42)	21	105 (38–290)	16	21 (12–37)
Serogroup C								
Extension baseline GMT	10	17 (5.98–51)	22	11 (6.24–19)	16	9.02 (5.24–16)	18	7.53 (2.38–24)
1M post–booster GMT	11	612 (245–1524)	23	11 (5.51–22)	16	135 (69–261)	18	304 (124–742)
1M post–booster GMR	10	29 (12–70)	22	0.83 (0.65–1.08)	16	15 (7.24–31)	18	40 (15–111)
Serogroup W								
Extension baseline GMT	13	30 (8.90–101)	21	18 (7.30–46)	19	29 (13–64)	17	9.37 (2.85–31)
1M post–booster GMT	16	880 (671–1154)	22	26 (11–59)	19	363 (278–473)	17	364 (180–736)
1M post–booster GMR	13	29 (9.89–86)	21	1.34 (0.99–1.81)	19	13 (5.25–31)	17	39 (12–122)
Serogroup Y								
Extension baseline GMT	14	15 (4.33–53)	22	5.66 (2.25–14)	21	1.84 (1.07–3.14)	18	5.79 (1.77–19)
1M post–booster GMT	16	697 (435–1116)	23	5.17 (2.16–12)	21	39 (13–120)	18	419 (217–809)
1M post–booster GMR	14	45 (13–151)	22	0.90 (0.79–1.03)	21	21 (6.41–70)	18	72 (25–211)

FAS, full analysis set; N, number of participants with available serum samples in each group; CI, confidence interval; GMT, geometric mean titer; GMR, geometric mean ratio; M, month; fHbp, factor H binding protein; NadA, Neisserial adhesin A; NHBA, *Neisseria* heparin binding antigen; PorA, porin A protein..

Table S2_4. Proportion of subjects with hSBA titres ≥5 against serogroup B strains (Day 30 FAS for immunogenicity)

	ABCWY¼/ABCWY¼		ABCWY¼/placebo		4CMenB/ABCWY¼		ACWY/ABCWY¼	
	N	% (95 CI)	N	% (95 CI)	N	% (95 CI)	N	% (95 CI)
M14459 (fHbp)								
Extension baseline	15	7 (0.17–31.9)	23	17 (5.0–38.8)	21	29(11.3–52.2)	19	11 (1.3–33.1)
1M post–booster	17	88 (63.6–98.5)	23	30 (13.2–52.9)	21	95 (76.2–99.88)	19	32 (12.6–56.6)
M01–0240364 (NadA)								
Extension baseline	15	20 (4.3–48.1)	20	5 (0.13–24.9)	21	43 (21.8–66.0)	18	6 (0.14–27.3)
1M post–booster	17	100 (80.5–100.0)	22	18 (5.2–40.3)	21	100 (83.9–100.0)	19	26 (9.1–51.2)
M07–0241084 (NHBA)								
Extension baseline	15	27 (7.8–55.1)	22	27 (10.7–50.2)	21	52 (29.8–74.3)	19	16 (3.4–39.6)
1M post–booster	17	88 (63.6–98.5)	23	30 (13.2–52.9)	21	95 (76.2–99.88)	19	21 (6.1–45.6)
NZ98/254 (PorA)								
Extension baseline	15	7 (0.17–31.9)	23	9 (1.1–28.0)	21	24 (8.2–47.2)	19	5 (0.13–26.0)
1M post–booster	17	71 (44.0–89.7)	23	13 (2.8–33.6)	21	95 (76.2–99.88)	19	16 (3.4–39.6)

hSBA, bactericidal assay with human complement; FAS, full analysis set; N, number of participants with available serum samples in each group; CI, confidence interval; M, month.

Table S2_5. hSBA GMTs and GMRs from extension baseline to 1 month post-booster against serogroup B strains (Day 30 FAS for immunogenicity)

	ABCWY¼/MenABCWY¼		ABCWY¼/placebo		4CMenB/ABCWY¼		ACWY/ABCWY¼	
	N	GMT/GMR (95%CI)	N	GMT/GMR (95%CI)	N	GMT/GMR (95%CI)	N	GMT/GMR (95%CI)
M14459 (fHbp)								
Extension baseline GMT	15	1.60 (0.97-2.65)	23	2.27 (1.61-3.20)	21	3.18 (1.87-5.41)	19	1.45 (1.03-2.05)
1M post–booster GMT	17	20 (11-37)	23	2.33 (1.62-3.35)	21	35 (21-58)	19	2.57 (1.51-4.37)
1M post–booster GMR	15	9.94 (5.64-18)	23	1.03 (0.72-1.47)	21	11 (5.97-20)	19	1.77 (1.10-2.86)
M01–0240364 (NadA)								
Extension baseline GMT	15	2.67 (0.87-8.24)	20	1.36 (0.83-2.23)	21	6.81 (2.47-19)	18	1.23 (0.88-1.71)
1M post–booster GMT	17	856 (454-1614)	22	1.94 (1.02-3.69)	21	1275 (794-2048)	19	3.42 (1.19-9.80)
1M post–booster GMR	15	333 (93-1194)	20	1.10 (0.84-1.44)	21	187 (66-533)	18	2.98 (1.10-8.10)
M07–0241084 (NHBA)								
Extension baseline GMT	15	2.16 (1.15-4.08)	22	2.52 (1.58-4.03)	21	6.08 (3.18-12)	19	2.06 (1.13-3.77)
1M post–booster GMT	17	29 (14-58)	23	2.48 (1.55-3.96)	21	69 (36-129)	19	2.15 (1.13-4.07)
1M post–booster GMR	15	13 (6.77-25)	22	0.93 (0.84-1.03)	21	11 (5.15-25)	19	1.04 (0.79-1.37)
NZ98/254 (PorA)								
Extension baseline GMT	15	1.32 (0.94-1.84)	23	1.58 (1.11-2.27)	21	2.07 (1.17-3.66)	19	1.18 (0.90-1.54)
1M post–booster GMT	17	12 (5.04-31)	23	1.87 (1.11-3.16)	21	28 (17-44)	19	1.58 (0.96-2.59)
1M post–booster GMR	15	6.99 (3.30-15)	23	1.18 (0.75-1.87)	21	13 (7.24-25)	19	1.34 (0.92-1.96)

hSBA, bactericidal assay with human complement FAS, full analysis set; N, number of participants with available serum samples in each group; CI, confidence interval; GMT, geometric mean titer; GMR, geometric mean ratio; M, month; fHbp, factor H binding protein; NadA, Neisserial adhesin A; NHBA, *Neisseria* heparin binding antigen; PorA, porin A protein.

Table S2_6. Number and percentage of participants with solicited local and systemic adverse events during the 7-day post-booster dose period (full analysis set)

	ABCWY¼/ ABCWY¼	ABCWY¼/ placebo	4CMenB ABCWY¼	ACWY/ ABCWY¼
Local adverse events, N	17	23	21	19
Pain, n (%)	14 (82)	7 (30)	17 (81)	17 (89)
Severe	2 (12)	0 (0)	5 (24)	3 (16)
Induration, n (%)	2 (12)	0 (0)	2 (10)	5 (26)
Severe	1 (6)	0 (0)	0 (0)	0 (0)
Erythema, n (%)	2 (12)	0 (0)	1 (5)	5 (26)
Severe	0 (0)	0 (0)	0 (0)	0 (0)
Systemic adverse events, N	17	23	21	19
Chills, n (%)	0 (0)	0 (0)	2 (10)	1 (5)
Severe	0 (0)	0 (0)	1 (5)	1 (5)
Nausea, n (%)	3 (18)	1 (4)	5 (24)	5 (26)
Severe	0 (0)	0 (0)	1 (5)	0 (0)
Fatigue, n (%)	8 (47)	2 (9)	8 (38)	6 (32)
Severe	0 (0)	0 (0)	2 (10)	1 (5)
Myalgia, n (%)	5 (29)	0 (0)	4 (19)	4 (21)
Severe	0 (0)	0 (0)	2 (10)	1 (5)
Arthralgia, n (%)	3 (18)	1 (4)	2 (10)	2 (11)
Severe	0 (0)	1 (4)	0 (0)	1 (5)
Loss of appetite, n (%)	4 (24)	2 (9)	3 (14)	3 (16)
Severe	0 (0)	0 (0)	1 (5)	1 (5)
Headache, n (%)	8 (47)	3 (13)	4 (19)	5 (26)
Severe	1 (6)	0 (0)	1 (5)	0 (0)
Rash, n (%)	1 (6)	0 (0)	1 (5)	2 (11)
Severe	0 (0)	0 (0)	1 (5)	0 (0)
Fever ≥38°C, n (%)	0 (0)	1 (4)	0 (0)	0 (0)
Severe	0 (0)	0 (0)	0 (0)	0 (0)

N, number of participants with safety results available in each group; n (%), number (percentage) of participants reporting the solicited local/systemic adverse event.

Note: Severe events were defined as “diameter >100 mm” for induration and erythema, “temperature ≥40°C” for fever, and “preventing normal daily activity” for all other adverse events.

Table S2_7. Unsolicited adverse events, by system organ class, serious adverse events and new onset of chronic diseases (full analysis set)

	ABCWY¼/ ABCWY¼	ABCWY¼/ placebo	4CMenB ABCWY¼	ACWY/ ABCWY¼
	N=17	N=23	N=21	N=19
	n (%)			
Any adverse event	5 (29)	2 (9)	7 (33)	5 (26)
At least possibly related	3 (18)	0 (0)	3 (14)	3 (16)
Disorders:				
Congenital, familial and genetic	0 (0)	1 (4)	0 (0)	0 (0)
Eye	1 (6)	0 (0)	0 (0)	0 (0)
Gastrointestinal	0 (0)	0 (0)	0 (0)	0 (0)
General and administration site conditions100 mm	3 (18)	0 (0)	4 (19)	2 (11)
Immune system	0 (0)	0 (0)	0 (0)	0 (0)
Infections and infestations	0 (0)	0 (0)	3 (14)	1 (5)
Injury, poisoning and procedural complications	1 (6)	0 (0)	0 (0)	0 (0)
Investigations	0 (0)	0 (0)	0 (0)	0 (0)
Musculoskeletal and connective tissue	1 (6)	1 (4)	0 (0)	0 (0)
Nervous system	1 (6)	0 (0)	0 (0)	0 (0)
Reproductive system and breast	0 (0)	0 (0)	2 (10)	1 (5)
Respiratory, thoracic and mediastinal	0 (0)	0 (0)	0 (0)	0 (0)
Skin and subcutaneous tissue	0 (0)	0 (0)	0 (0)	1 (5)
Any serious adverse event	1 (6)	1 (4)	1 (5)	1 (5)
New onset of chronic diseases	2 (12)	0 (0)	1 (5)	1 (5)

N, number of participants with safety results available in each group; n (%), number (percentage) of participants reporting the unsolicited adverse event.