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Influence of baseline demographics/disease characteristics on efficacy of an oral selective TYK2 inhibitor, BMS-986165, in patients with moderate to severe plaque psoriasis: Phase 2, randomized, placebo-controlled trial

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INTRODUCTION

- Psoriasis is a chronic, immune-mediated disorder characterized by symptoms that are associated with reduced health-related quality of life and decreased work productivity.[1]
- BMS-986165 is an oral, selective inhibitor of tyrosine kinase 2 (TYK2),[2,3] an enzyme that activates signal transducer and activator of transcription (STAT)-dependent cytokine signaling pathways involved in psoriasis pathophysiology.[4,5]
- In a 12-week, Phase 2 trial of BMS-986165 in patients with moderate to severe plaque psoriasis[6]:
  - Psoriasis Area and Severity Index (PASI) 75 responses were highest at doses from 3 mg twice daily (BID) up to 12 mg once daily (QD; 67–75%) vs placebo at Week 12 (7%; *P*<0.001; primary endpoint) (Table 1).
  - Adverse events were generally mild to moderate and resulted in drug discontinuation in 4% of placebo patients and 2–7% of patients across the active doses.

Table 1: Efficacy of BMS-986165 at Week 12 (NRI).

	Placebo (n=45)	BMS-986165 3 mg QOD (n=44)	3 mg QD (n=44)	3 mg BID (n=45)	6 mg BID (n=45)	12 mg QD (n=44)
Primary endpoint: PASI 75						
Patients, n (%)	3 (7)	4 (9)	17 (39)	31 (69)	30 (67)	33 (75)
P value vs placebo	-	0.49	<0.001	<0.001	<0.001	<0.001
Secondary endpoints						
PASI 90						
Patients, n (%)	1 (2)	3 (7)	7 (16)	20 (44)	20 (44)	19 (43)
Difference vs placebo, % (95% CI)	-	5 (–16 to 25)	14 (–7 to 33)	42 (21–60)	42 (21–60)	41 (20–58)
PASI 100						
Patients, n (%)	0 (0)	1 (2)	0 (0)	4 (9)	8 (18)	11 (25)
Difference vs placebo, % (95% CI)	-	2 (–18 to 23)	-	9 (–13 to 30)	18 (–4 to 38)	25 (4–44)
sPGA 0/1						
Patients, n (%)	3 (7)	9 (20)	17 (39)	34 (76)	29 (64)	33 (75)
Difference vs placebo, % (95% CI)	-	14 (–7 to 33)	32 (11–50)	69 (51–83)	58 (38–74)	68 (50–82)
DLQI 0/1						
Patients, n (%)	2 (4)	7 (16)	7 (16)	19 (42)	27 (60)	28 (64)
Difference vs placebo, % (95% CI)	-	12 (–2 to 26)	12 (–2 to 26)	38 (20–54)	56 (38–71)	59 (41–74)

Data have been rounded to the nearest integer. For patients who discontinued early or who had a missing value at any time point, data were imputed as a non-response at that time point, regardless of the status of response at the time of discontinuation. The numbers of patients with NRI in each group were as follows: for PASI endpoints: placebo n=11, 3 mg QOD n=6, 3 mg QD n=3, 3 mg BID n=1, 6 mg BID n=5, and 12 mg QD n=1; for sPGA 0/1: placebo n=11, 3 mg QOD n=6, 3 mg QD n=6, 3 mg BID n=1, 6 mg BID n=6, and 12 mg QD n=1; for DLQI 0/1: placebo n=11, 3 mg QOD n=6, 3 mg QD n=3, 3 mg BID n=2, 6 mg BID n=5, and 12 mg QD n=1. P values for endpoints other than the primary endpoint are not reported because these values have not been adjusted for multiple comparisons; 95% CIs are unadjusted.

BID=twice daily; CI=confidence interval; DLQI 0/1=Dermatology Life Quality Index score of 0 or 1 (scores on the DLQI range from 0 to 30, with higher scores indicating worse quality of life); NRI=non-responder imputation; PASI 75=≥75% improvement in Psoriasis Area and Severity Index score; PASI 90=≥90% improvement in Psoriasis Area and Severity Index score; PASI 100=100% improvement in Psoriasis Area and Severity Index score; QD=once daily; QOD=every other day; sPGA 0/1=static Physician Global Assessment score of 0 or 1 (scores on the sPGA range from 0 to 5, with higher scores indicating greater disease severity).

OBJECTIVE

- To report the influence of baseline demographics and disease characteristics on Week 12 efficacy for the 3 most effective doses of BMS-986165 (3 mg BID, 6 mg BID, and 12 mg QD).

METHODS

Study design

- Adults with moderate to severe plaque psoriasis (body surface area [BSA] ≥10%, PASI score ≥12, static Physician Global Assessment [sPGA] score ≥3) were randomized equally to BMS-986165 (3 mg every other day, 3 mg QD, 3 mg BID, 6 mg BID, 12 mg QD) or placebo.
- The treatment period was 12 weeks, with an additional 30-day off-treatment follow-up period for safety assessment, with efficacy measures collected post-treatment.

Subgroup analyses

- Subgroup analyses of efficacy endpoints were performed for the following baseline characteristics; randomization was not stratified by these characteristics.

Baseline demographics

- Weight (<90 kg, ≥90 kg and <100 kg, ≥100 kg).
- Body mass index (BMI; <25 kg/m² [underweight/normal], 25–<30 kg/m² [overweight], ≥30 kg/m² [obese]).
- Age (18–<45 years, ≥45 years).

Baseline disease

- Age of psoriasis onset (<18 years, 18–<45 years, ≥45 years, based on pediatric onset, and 2 peaks of psoriasis onset in adults).
- Dermatology Life Quality Index (DLQI) score (<10, 10–<20, ≥20, corresponding approximately to the following categories of effect on the patient's life: small to moderate, moderate to large, extremely large[7]).
- BSA (<20%, ≥20%, to indicate less/more severe disease[8]).
- PASI score (<20, ≥20, to indicate less/more severe disease[8]).
- Disease duration (<15 years, ≥15 years, based on median duration of disease in the overall trial population[6]).
- Musculoskeletal symptoms (no, yes) such as joint pain, heel pain, or back pain.
- sPGA score (3 [moderate], 4–5 [severe]).
- Previous biologic use (no, yes).

Statistical analysis

- Response rates and 95% confidence intervals (CIs) are presented in the bar charts.
- Missing data were imputed using non-responder imputation; patients who discontinued early or who had a missing value at any time point had data imputed as a non-response at that time point, regardless of the status of response at the time of discontinuation.

RESULTS

Patients

- In total, 267 patients were randomized and treated in the study.
- Patient demographics and disease characteristics were similar across treatment groups (Table 2).

Table 2: Demographic and clinical characteristics of patients at baseline.

Characteristic	Total (N=267)	Placebo (n=45)	BMS-986165 3 mg QOD (n=44)	3 mg QD (n=44)	3 mg BID (n=45)	6 mg BID (n=45)	12 mg QD (n=44)
Demographic characteristics							
Age, years	45±13	46±12	41±12	45±14	46±15	43±13	47±12
Sex, male, n (%)	194 (73)	37 (82)	36 (82)	30 (68)	26 (58)	35 (78)	30 (68)
Race, n (%)*							
White	225 (84)	40 (89)	35 (80)	39 (89)	39 (87)	35 (78)	37 (84)
Asian	36 (13)	5 (11)	6 (14)	5 (11)	5 (11)	9 (20)	6 (14)
Other	6 (2)	0 (0)	3 (7)	0 (0)	1 (2)	1 (2)	1 (2)
Body weight, kg	88±20	96±21	90±18	87±22	84±18	84±19	88±24
BMI, kg/m²	29±5	30±6	29±6	29±5	28±5	27±5	29±5
Clinical characteristics							
Median (range) duration of disease, years	15 (1–61)	18 (2–48)	18 (1–52)	13 (2–60)	13 (1–61)	15 (1–55)	20 (1–47)
Previous use of biologic agent, n (%)	115 (43)	20 (44)	19 (43)	19 (43)	19 (42)	20 (44)	18 (41)
PASI score†	18±6	19±6	17±4	18±6	19±8	18±6	18±5
DLQI score‡	12±7	13±7	12±8	12±7	13±5	11±6	13±7
BSA, %§	23±13	24±13	20±8	23±17	24±15	25±13	21±12

Plus-minus values are mean ± SD. Formal statistical analysis was not performed to evaluate between-group differences. Data have been rounded to the nearest integer. Percentages may not total 100 because of rounding.
**Race was reported by the patients on a questionnaire at screening or baseline.*
†PASI scores range from 0 to 72, with higher scores indicating greater severity of psoriasis.
‡DLQI scores range from 0 to 30, with higher scores indicating worse quality of life.
§Percentage of BSA affected by psoriasis.

BID=twice daily; BMI=body mass index; BSA=body surface area; DLQI=Dermatology Life Quality Index; PASI=Psoriasis Area and Severity Index; QD=once daily; QOD=every other day; SD=standard deviation.

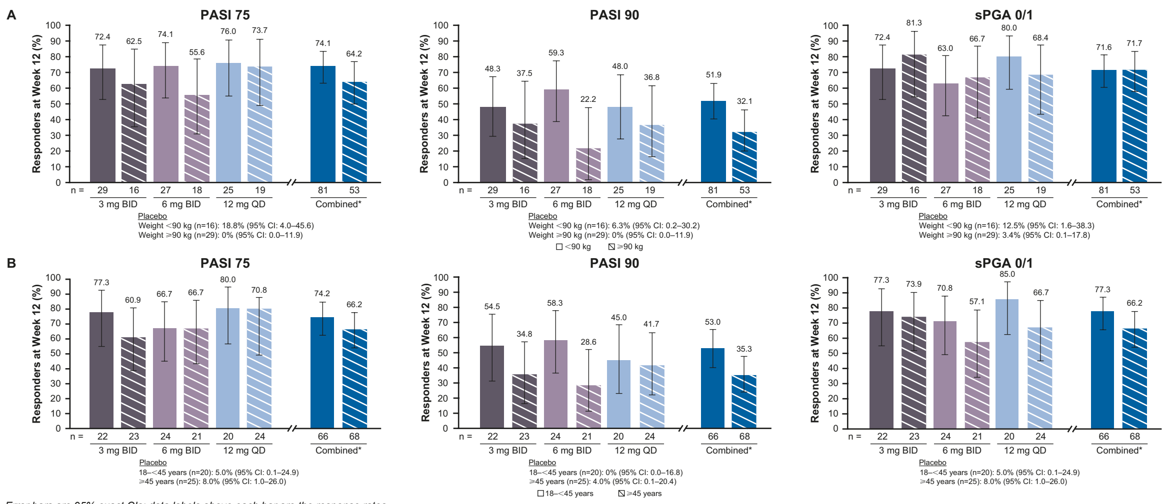
Subgroup analyses of efficacy endpoints

- Subgroup analyses are reported for patients treated with BMS-986165 at doses shown to have the highest levels of efficacy (3 mg BID and above [n=134]).
  - There was a slight imbalance in the number of patients per treatment in each subgroup, as no stratification by subgroup was performed at randomization.

Baseline demographics

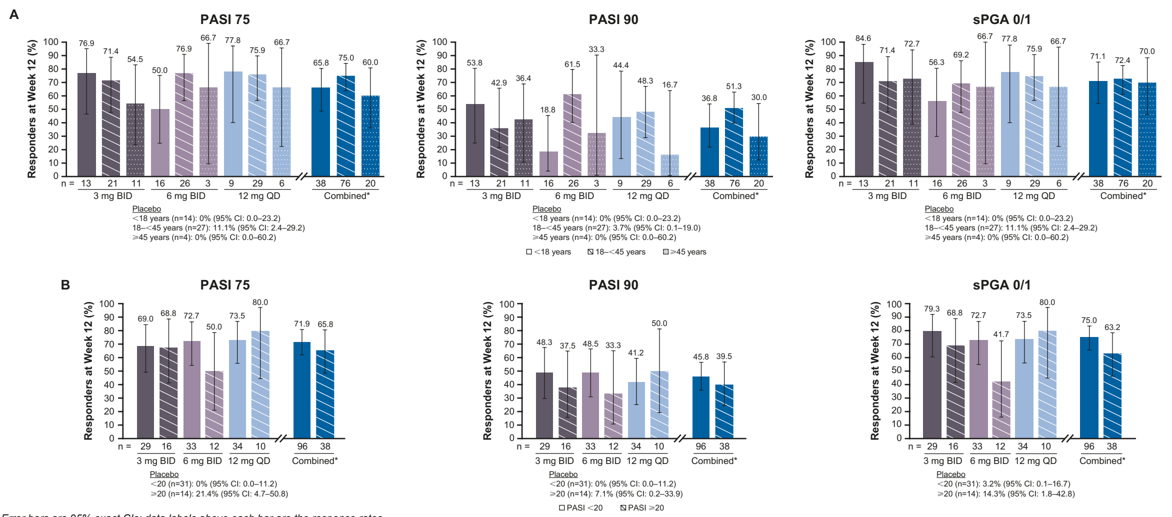
- At Week 12, the proportions of patients achieving PASI 75, PASI 90, or sPGA 0/1 were consistent across baseline demographic subgroups.
  - By weight (<90 kg vs ≥90 kg; Figure 1A):
    - Although PASI 90 response rates were generally lower in the ≥90 kg versus the <90 kg subgroup (22–38% vs 48–59%), the 95% CIs overlapped between subgroups in each treatment group; differences among subgroups do not appear to be clinically meaningful.
    - Similar consistency in response rates was seen when a baseline weight cut-off of 100 kg was used (data not shown).
  - By BMI (<25 kg/m²; 25–<30 kg/m²; ≥30 kg/m²; Table 3):
    - Although PASI 75 and PASI 90 response rates were numerically higher in the underweight/normal (<25 kg/m²) BMI subgroup than in the overweight (25–<30 kg/m²) or obese (≥30 kg/m²) subgroups, the 95% CIs mostly overlapped across these subgroups; differences among the subgroups do not appear to be clinically meaningful.
    - Response rates for sPGA 0/1 were generally similar between BMI subgroups.
  - By age (18–<45 years vs ≥45 years; Figure 1B):
    - Although PASI 75, PASI 90, and sPGA 0/1 response rates were generally higher for the younger versus the older subgroup, the 95% CIs all overlapped between the 2 subgroups; differences between the 2 subgroups do not appear to be clinically meaningful.

Figure 1: Efficacy of BMS-986165: endpoints at Week 12 by baseline demographic characteristics: A) weight and B) age.



Error bars are 95% exact CIs; data labels above each bar are the response rates.
**BMS-986165 3 mg BID, 6 mg BID, and 12 mg QD combined.*
BID=twice daily; CI=confidence interval; PASI 75=≥75% improvement in Psoriasis Area and Severity Index score; PASI 90=≥90% improvement in Psoriasis Area and Severity Index score; QD=once daily; sPGA 0/1=static Physician Global Assessment score of 0 or 1.

Figure 2: Efficacy of BMS-986165: endpoints at Week 12 by baseline disease characteristics: A) age at onset of psoriasis and B) PASI score.



Error bars are 95% exact CIs; data labels above each bar are the response rates.
**BMS-986165 3 mg BID, 6 mg BID, and 12 mg QD combined.*
BID=twice daily; CI=confidence interval; PASI=Psoriasis Area and Severity Index; PASI 75=≥75% improvement in Psoriasis Area and Severity Index score; PASI 90=≥90% improvement in Psoriasis Area and Severity Index score; QD=once daily; sPGA 0/1=static Physician Global Assessment score of 0 or 1.

Table 3: Efficacy of BMS-986165: endpoints at Week 12 by baseline BMI and disease duration, and previous biologic use.

Endpoint	Dose	BMI <25 kg/m²	BMI 25–<30 kg/m²	BMI ≥30 kg/m²	Disease duration, years <15	Disease duration, years ≥15	Previous biologic use per IWRS No	Previous biologic use per IWRS Yes
PASI 75	3 mg BID	n=13 84.6 (54.6–98.1)	n=16 56.3 (29.9–80.2)	n=16 68.8 (41.3–89.0)	n=25 72.0 (50.6–87.9)	n=20 65.0 (40.8–84.6)	n=26 65.4 (44.3–82.8)	n=19 73.7 (48.8–90.9)
	6 mg BID	n=19 73.7 (48.8–90.9)	n=11 63.6 (30.8–89.1)	n=15 60.0 (32.3–83.7)	n=22 68.2 (45.1–86.1)	n=23 65.2 (42.7–83.6)	n=25 80.0 (59.3–93.2)	n=20 50.0 (27.2–72.8)
	12 mg QD	n=9 88.9 (51.8–99.7)	n=19 73.7 (48.8–90.9)	n=16 68.8 (41.3–89.0)	n=13 61.5 (31.6–86.1)	n=31 80.6 (62.5–92.5)	n=26 80.8 (60.6–93.4)	n=18 66.7 (41.0–86.7)
	Combined*	n=41 80.5 (65.1–91.2)	n=46 65.2 (49.8–78.6)	n=47 66.0 (50.7–79.1)	n=60 68.3 (55.0–79.7)	n=74 71.6 (59.9–81.5)	n=77 75.3 (64.2–84.4)	n=57 63.2 (49.3–75.6)
PASI 90	3 mg BID	n=13 76.9 (46.2–95.0)	n=16 18.8 (4.0–45.6)	n=16 43.8 (19.8–70.1)	n=25 48.0 (27.8–68.7)	n=20 40.0 (19.1–63.9)	n=26 50.0 (29.9–70.1)	n=19 36.8 (16.3–61.6)
	6 mg BID	n=19 57.9 (33.5–79.7)	n=11 54.5 (23.4–83.3)	n=15 20.0 (4.3–48.1)	n=22 54.5 (32.2–75.6)	n=23 34.8 (16.4–57.3)	n=25 60.0 (38.7–78.9)	n=20 25.0 (8.7–49.1)
	12 mg QD	n=9 66.7 (29.9–92.5)	n=19 36.8 (16.3–61.6)	n=16 37.5 (15.2–64.6)	n=13 23.1 (5.0–53.8)	n=31 51.6 (33.1–69.8)	n=26 42.3 (23.4–63.1)	n=18 44.4 (21.5–69.2)
	Combined*	n=41 65.9 (49.4–79.9)	n=46 34.8 (21.4–50.2)	n=47 34.0 (20.9–49.3)	n=60 45.0 (32.1–58.4)	n=74 43.2 (31.8–55.3)	n=77 50.6 (39.0–62.2)	n=57 35.1 (22.9–48.9)
sPGA 0/1	3 mg BID	n=13 76.9 (46.2–95.0)	n=16 68.8 (41.3–89.0)	n=16 81.3 (54.4–96.0)	n=25 68.0 (46.5–85.1)	n=20 85.0 (62.1–96.8)	n=26 61.5 (40.6–79.8)	n=19 94.7 (74.0–99.9)
	6 mg BID	n=19 63.2 (38.4–83.7)	n=11 63.6 (30.8–89.1)	n=15 66.7 (38.4–88.2)	n=22 63.6 (40.7–82.8)	n=23 65.2 (42.7–83.6)	n=25 72.0 (50.6–87.9)	n=20 55.0 (31.5–76.9)
	12 mg QD	n=9 88.9 (51.8–99.7)	n=19 78.9 (54.4–93.9)	n=16 62.5 (35.4–84.8)	n=13 53.8 (25.1–80.8)	n=31 83.9 (66.3–94.5)	n=26 80.8 (60.6–93.4)	n=18 66.7 (41.0–86.7)
	Combined*	n=41 73.2 (57.1–85.8)	n=46 71.7 (56.5–84.0)	n=47 70.2 (55.1–82.7)	n=60 63.3 (49.9–75.4)	n=74 78.4 (67.3–87.1)	n=77 71.4 (60.0–81.2)	n=57 71.9 (58.5–83.0)

Data are shown as response rate, % (95% exact CI).
Data for the placebo arm are as follows:
BMI: <25 kg/m² (n=6): PASI 75, 0.0 (0.0–45.9); PASI 90, 0.0 (0.0–45.9); sPGA 0/1, 0.0 (0.0–45.9); 25–<30 kg/m² (n=14): PASI 75, 7.1 (0.2–33.9); PASI 90, 0.0 (0.0–23.2); sPGA 0/1, 7.1 (0.2–33.9); ≥30 kg/m² (n=25): PASI 75, 8.0 (1.0–26.0); PASI 90, 4.0 (0.1–20.4); sPGA 0/1, 8.0 (1.0–26.0).
Disease duration: <15 years (n=16): PASI 75, 6.3 (0.2–30.2); PASI 90, 0.0 (0.0–20.6); sPGA 0/1, 12.5 (1.6–38.3); ≥15 years (n=29): PASI 75, 6.9 (0.8–22.8); PASI 90, 3.4 (0.1–17.8); sPGA 0/1, 3.4 (0.1–17.8).
Previous biologic use per IWRS: no (n=25): PASI 75, 4.0 (0.1–20.4); PASI 90, 0.0 (0.0–13.7); sPGA 0/1, 8.0 (1.0–26.0); yes (n=20): PASI 75, 10.0 (1.2–31.7); PASI 90, 5.0 (0.1–24.9); sPGA 0/1, 5.0 (0.1–24.9).
**BMS-986165 3 mg BID, 6 mg BID, and 12 mg QD combined.*
BID=twice daily; BMI=body mass index; CI=confidence interval; IWRS=Interactive Web Response System; PASI 75=≥75% improvement in Psoriasis Area and Severity Index score; PASI 90=≥90% improvement in Psoriasis Area and Severity Index score; QD=once daily; sPGA 0/1=static Physician Global Assessment score of 0 or 1.

Table 4: Efficacy of BMS-986165: endpoints at Week 12 by disease characteristics at baseline.

Endpoint	Dose	Musculoskeletal symptoms No	Musculoskeletal symptoms Yes	sPGA score 3 (moderate)	sPGA score 4–5 (severe)	DLQI <10	DLQI 10–<20	DLQI ≥20	BSA <20%	BSA ≥20%
PASI 75	3 mg BID	n=34 64.7 (46.5–80.3)	n=11 81.8 (48.2–97.7)	n=29 65.5 (45.7–82.1)	n=16 75.0 (47.6–92.7)	n=14 57.1 (28.9–82.3)	n=26 73.1 (52.2–88.4)	n=5 80.0 (28.4–99.5)	n=26 69.2 (48.2–85.7)	n=19 68.4 (43.4–87.4)
	6 mg BID	n=34 67.6 (49.5–82.6)	n=11 63.6 (30.8–89.1)	n=32 65.6 (46.8–81.4)	n=12 75.0 (42.8–94.5)	n=19 84.2 (60.4–96.6)	n=22 50.0 (28.2–71.8)	n=4 75.0 (19.4–99.4)	n=19 84.2 (60.4–96.6)	n=26 53.8 (33.4–73.4)
	12 mg QD	n=29 75.9 (56.5–89.7)	n=15 73.3 (44.9–92.2)	n=28 71.4 (51.3–86.8)	n=16 81.3 (54.4–96.0)	n=19 78.9 (54.4–93.9)	n=14 78.6 (49.2–95.3)	n=11 63.6 (30.8–89.1)	n=28 75.0 (55.1–89.3)	n=16 75.0 (47.6–92.7)
	Combined*	n=97 69.1 (58.9–78.1)	n=37 73.0 (55.9–86.2)	n=89 67.4 (56.7–77.0)	n=44 77.3 (62.2–88.5)	n=52 75.0 (61.1–86.0)	n=62 66.1 (53.0–77.7)	n=20 70.0 (45.7–88.1)	n=73 75.3 (63.9–84.7)	n=61 63.9 (50.6–75.8)
PASI 90	3 mg BID	n=34 47.1 (29.8–64.9)	n=11 36.4 (10.9–69.2)	n=29 37.9 (20.7–57.7)	n=16 56.3 (29.9–80.2)	n=14 35.7 (12.8–64.9)	n=26 50.0 (29.9–70.1)	n=5 40.0 (5.3–85.3)	n=26 50.0 (29.9–70.1)	n=19 36.8 (16.3–61.6)
	6 mg BID	n=34 44.1 (27.2–62.1)	n=11 45.5 (16.7–76.6)	n=32 43.8 (26.4–62.3)	n=12 50.0 (21.1–78.9)	n=19 68.4 (43.4–87.4)	n=22 22.7 (7.8–45.4)	n=4 50.0 (6.8–93.2)	n=19 57.9 (33.5–79.7)	n=26 34.6 (17.2–55.7)
	12 mg QD	n=29 44.8 (26.4–64.3)	n=15 40.0 (16.3–67.7)	n=28 42.9 (24.5–62.8)	n=16 43.8 (19.8–70.1)	n=19 42.1 (20.3–66.5)	n=14 42.9 (17.7–71.1)	n=11 45.5 (16.7–76.6)	n=28 35.7 (18.6–55.9)	n=16 56.3 (29.9–80.2)
	Combined*	n=97 45.4 (35.2–55.8)	n=37 40.5 (24.8–57.9)	n=89 41.6 (31.2–52.5)	n=44 50.0 (34.6–65.4)	n=52 50.0 (35.8–64.2)	n=62 38.7 (26.6–51.9)	n=20 45.0 (23.1–68.5)	n=73 46.6 (34.8–58.6)	n=61 41.0 (28.6–54.3)
sPGA 0/1	3 mg BID	n=34 70.6 (52.5–84.9)	n=11 90.9 (58.7–99.8)	n=29 75.9 (56.5–89.7)	n=16 75.0 (47.6–92.7)	n=14 64.3 (35.1–87.2)	n=26 80.8 (60.6–93.4)	n=5 80.0 (28.4–99.5)	n=26 80.8 (60.6–93.4)	n=19 68.4 (43.4–87.4)
	6 mg BID	n=34 67.6 (49.5–82.6)	n=11 54.5 (23.4–83.3)	n=32 62.5 (43.7–78.9)	n=12 75.0 (42.8–94.5)	n=19 78.9 (54.4–93.9)	n=22 50.0 (28.2–71.8)	n=4 75.0 (19.4–99.4)	n=19 78.9 (54.4–93.9)	n=26 53.8 (33.4–73.4)
	12 mg QD	n=29 75.9 (56.5–89.7)	n=15 73.3 (44.9–92.2)	n=28 75.0 (55.1–89.3)	n=16 75.0 (47.6–92.7)	n=19 73.7 (48.8–90.9)	n=14 85.7 (57.2–98.2)	n=11 63.6 (30.8–89.1)	n=28 75.0 (55.1–89.3)	n=16 75.0 (47.6–92.7)
	Combined*	n=97 71.1 (61.0–79.9)	n=37 73.0 (55.9–86.2)	n=89 70.8 (60.2–79.9)	n=44 75.0 (59.7–86.8)	n=52 73.1 (59.0–84.4)	n=62 71.0 (58.1–81.8)	n=20 70.0 (45.7–88.1)	n=73 78.1 (66.9–86.9)	n=61 63.9 (50.6–75.8)

Data are shown as response rate, % (95% exact CI).
Data for the placebo arm are as follows:
Musculoskeletal symptoms: no (n=24): PASI 75, 12.5 (2.7–32.4); PASI 90, 4.2 (0.1–21.1); sPGA 0/1, 12.5 (2.7–32.4); yes (n=21): PASI 75, 0.0 (0.0–16.1); PASI 90, 0.0 (0.0–16.1); sPGA 0/1, 0.0 (0.0–16.1).
sPGA score: 3 (n=29): PASI 75, 3.4 (0.1–17.8); PASI 90, 0.0 (0.0–11.9); sPGA 0/1, 6.9 (0.8–22.8); 4–5 (n=16): PASI 75, 12.5 (1.6–38.3); PASI 90, 6.3 (0.2–30.2); sPGA 0/1, 6.3 (0.2–30.2).
DLQI: <10 (n=14): PASI 75, 0.0 (0.0–23.2); PASI 90, 0.0 (0.0–23.2); sPGA 0/1, 7.1 (0.2–33.9); 10–<20 (n=23): PASI 75, 8.7 (1.1–28.0); PASI 90, 0.0 (0.0–14.8); sPGA 0/1, 8.7 (1.1–28.0); ≥20 (n=8): PASI 75, 12.5 (0.3–52.7); PASI 90, 12.5 (0.3–52.7); sPGA 0/1, 0.0 (0.0–36.9).
BSA: <20% (n=19): PASI 75, 0.0 (0.0–17.6); PASI 90, 0.0 (0.0–17.6); sPGA 0/1, 5.3 (0.1–26.0); ≥20% (n=26): PASI 75, 11.5 (2.4–30.2); PASI 90, 3.8 (0.1–19.6); sPGA 0/1, 7.7 (0.9–25.1).
**BMS-986165 3 mg BID, 6 mg BID, and 12 mg QD combined.*
BID=twice daily; BSA=body surface area; CI=confidence interval; DLQI=Dermatology Life Quality Index; PASI 75=≥75% improvement in Psoriasis Area and Severity Index score; PASI 90=≥90% improvement in Psoriasis Area and Severity Index score; QD=once daily; sPGA 0/1=static Physician Global Assessment score of 0 or 1.

Baseline disease

- At Week 12, the proportions of patients achieving PASI 75, PASI 90, or sPGA 0/1 were generally consistent across baseline disease subgroups.
  - By age of onset (<18 years, 18–<45 years, ≥45 years; Figure 2A):
    - Although some variability in PASI 75 and PASI 90 response rates between subgroups was seen, the 95% CIs all overlapped between subgroups within each treatment group; differences among subgroups within each treatment arm do not appear to be clinically meaningful.
    - Response rates for sPGA 0/1 were generally similar across age of onset subgroups.
  - By PASI score (<20, ≥20; Figure 2B):
    - Response rates for the subgroup of patients with PASI scores ≥20 were similar to those for patients with PASI scores <20.
  - A general consistency in responses was seen regardless of BMI, disease duration, or previous biologic use (Table 3), or musculoskeletal symptoms, sPGA score, DLQI, or BSA (Table 4).

CONCLUSIONS

- **In patients with moderate to severe plaque psoriasis, BMS-986165 demonstrated consistent efficacy at oral doses ≥3 mg BID regardless of baseline weight, BMI, or age; age at onset; baseline disease severity (PASI, musculoskeletal symptoms, sPGA, DLQI, BSA) or duration; or previous biologic use.**
  - **Although variation in response was seen among some subgroups, the 95% CIs mostly overlapped between complementary subgroups within treatment groups and the differences did not appear to be clinically meaningful.**
  - **Small patient numbers may underlie the fluctuations observed.**
- **Two global, randomized, placebo-controlled and active-comparator Phase 3 trials in psoriasis are underway to confirm these findings (POETYK PSO program; ClinicalTrials.gov identifiers: NCT03624127 and NCT03611751).**

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