P-550

NCT02607930
NCT02607956

Efficacy and Safety of B/F/TAF in Black Adults With HIV Who Are Treatment Naïve: 5-Year Follow-Up From Two Phase 3 Studies

Anson Wurapa[1], Yazdan Yazdanpanah[2], Chloe Orkin[3], Hui Liu[4], Rachel Rogers[4], David Malebranche[4], Jason T Hindman[4], Debbie Hagins[5]

[1]Infectious Disease Specialists of Atlanta, Decatur, GA, USA; [2]Bichat-Claude Bernard Hospital, APHP, Paris, Île-de-France, France; [3]Queen Mary University, London, UK; [4]Gilead Sciences, Inc., Foster City, CA, USA; [5]Chatham CARE Center, Savannah, GA, USA

Anson Wurapa
drakw@comcast.net
2665 N. Decatur Road, Suite 330
Decatur, GA 30033
Tel: +1 (770) 696 6856

Conclusions

- Through 5 years of follow-up, B/F/TAF maintained high rates of virologic suppression in treatment-naïve Black people with HIV-1, despite a greater proportion of Black versus non-Black participants having more advanced disease and low (< 85%) adherence
- No treatment-emergent drug resistance was reported, including in participants with suboptimal adherence
- B/F/TAF was well tolerated, with few study drug discontinuations due to TEAEs
- A smaller proportion of Black versus non-Black participants experienced study drug–related TEAEs
- Changes in eGFR and fasting lipids were not clinically significant and were similar between the groups
- Despite higher median baseline body weight in Black versus non-Black participants, weight changes from baseline were similar between the groups
- Rates of treatment-emergent cardiovascular/cerebrovascular events, diabetes, and hypertension were similar between the groups
- These results demonstrate the durability and long-term safety of B/F/TAF in Black people with HIV who have no prior HIV treatment experience

Plain Language Summary

- Black communities in the United States are greatly affected by human immunodeficiency virus type 1 (HIV-1)
- B/F/TAF is a single pill used to treat HIV-1 in many countries
  - The pill combines three medications: bictegravir (B), emtricitabine (F), and tenofovir alafenamide (TAF)
  - International guidelines recommend using B/F/TAF:
    - For people with HIV-1 starting their first treatment
    - For people who have undetectable levels of HIV-1 in their blood after taking other treatments
- This study looked at data from two clinical studies of B/F/TAF as first treatment to find out if it was effective and safe for Black people with HIV-1
- After 5 years of treatment, B/F/TAF was very effective at lowering the amount of HIV-1 in the blood of both Black and non-Black people with HIV-1
- Side effects were rare and were similar in both groups of people
- This study shows that B/F/TAF is an effective long-term treatment for Black people with HIV-1

Introduction

- Black communities are disproportionately affected by HIV-1[1,2] and may have a greater risk of certain comorbidities compared with people with HIV from other racial/ethnic communities[3]
- Black people have been historically underrepresented in HIV-1 clinical studies[4]
- Addressing HIV prevention, care, and treatment among Black communities is important for reducing HIV-related health inequities[2,5]
- Bictegravir, emtricitabine, and tenofovir alafenamide (B/F/TAF) demonstrated efficacy and safety through 5 years in studies 1489 (NCT02607930) and 1490 (NCT02607956) in people with HIV who were treatment naïve[6-8]
  - Across both studies, 33% of participants were Black; specific outcomes with B/F/TAF in these individuals have not been previously reported

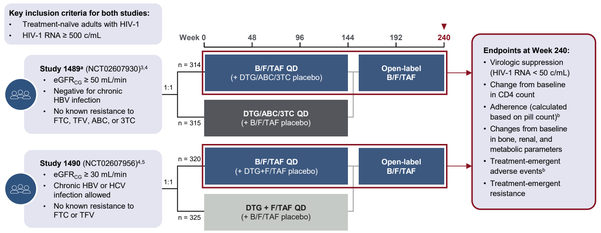
Objective

- To assess the efficacy and safety of first-line therapy with B/F/TAF over 5 years (240 weeks) in treatment-naïve Black people with HIV treated in two Phase 3 studies

Methods

Study Design

- Post hoc pooled analysis of participants who received B/F/TAF in the 144-week randomized phase, and the 96-week open-label extension, of two randomized, double-blind, multicenter Phase 3 studies



[a]Participants were also required to be HLA-B*5701 negative for inclusion in the study.
[b]Through the end of the study.
3TC, lamivudine; ABC, abacavir; B, bictegravir; c, copies; CD4, cluster of differentiation 4; DTG, dolutegravir; $eGFR_{CG}$, estimated glomerular filtration rate by Cockcroft-Gault equation; F/FTC, emtricitabine; HBV, hepatitis B virus; HCV, hepatitis C virus; HLA, human leukocyte antigen; QD, once daily; TAF, tenofovir alafenamide; TFV, tenofovir.

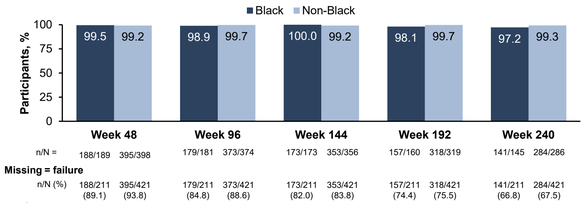
Results

Baseline Demographics and Disease Characteristics

		Black n = 211	Non-Black n = 421
Age, years, median (Q1, Q3)		30 (25, 41)	34 (27, 44)
Male sex at birth, n (%)		178 (84)	385 (91)
Region, n (%)	US	192 (91)	228 (54)
	Ex-US	19 (9)	193 (46)
Race, n (%)	Black	211 (100)	0
	White	0	363 (86)
	Other[a]	0	58 (14)
HIV-1 RNA, log_{10} c/mL, median (Q1, Q3)		4.42 (3.91, 4.93)	4.42 (4.06, 4.88)
HIV-1 RNA > 100,000 c/mL, n (%)		42 (20)	76 (18)
CD4 cell count, cells/µL, median (Q1, Q3)		405 (264, 534)	459 (310, 598)
CD4 cell count < 200 cells/µL, n (%)		37 (18)	42 (10)
Medical history, n (%)	Diabetes mellitus	17 (8)	21 (5)
	Hyperlipidemia	26 (12)	61 (14)
	Hypertension	41 (19)	57 (14)

[a]Includes American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, and other.
c, copies; Q, quartile.

HIV-1 RNA < 50 c/mL (Missing = Excluded)



c, copies.

- Rates of virologic suppression were high through Week 240 in both Black and non-Black participants who received B/F/TAF

Resistance Analysis Through Week 240

- No treatment-emergent resistance to the components of B/F/TAF was reported in any participant in either group through Week 240

Immunologic Outcomes at Week 240

- At Week 240, CD4 cell count increased from baseline among both Black and non-Black participants (mean [SD] change from baseline: +375 [257] and +319 [223] cells/µL, respectively; *P* = 0.0307)[a]

[a]*P* value for Black versus non-Black group comparison from an analysis-of-covariance model, adjusted by the baseline HIV-1 RNA (≤ 100,000 vs > 100,000 copies [c]/mL) and region stratum.

Adherence by Pill Count Through Week 240

	Black n = 211	Non-Black n = 421
Participants who returned ≥ 1 bottle, n (%)	206 (98)	416 (99)
Adherence rate through Week 240[a]		
Median (Q1, Q3), %	96 (91, 99)	98 (95, 99)
≥ 95%, n (%)	114 (55)	313 (75)
≥ 85% to < 95, n (%)	69 (33)	82 (20)
< 85, n %	23 (11)	21 (5)

Adherence was calculated based on pill count for B/F/TAF only. Denominator for percentage of drug adherence category was the number of participants who returned ≥ 1 bottle and had calculable drug adherence. [a]Through the end of the study.
B/F/TAF, bictegravir/emtricitabine/tenofovir alafenamide; Q, quartile.

- The median B/F/TAF adherence rate was high among both groups
- Black participants were significantly more likely than non-Black participants to have low (< 85%) adherence (*P* = 0.0074; Fisher exact test)
- In participants with < 85% adherence, 100% (10/10) of Black and 100% (9/9) of non-Black participants had HIV-1 RNA < 50 c/mL on B/F/TAF at Week 240 by missing = excluded (M = E) method[a]

[a]M = E analysis of all data collected up to 1 day after permanent discontinuation of study drug.

TEAEs Through Week 240[a]

	Black n = 211	Non-Black n = 421
Any TEAE	198 (94)	404 (96)
Study drug–related TEAEs	43 (20)	134 (32)
Any Grade 3 or 4 TEAEs	47 (22)	83 (20)
Study drug–related Grade 3 or 4 TEAEs	3 (1)[b]	6 (1)[c]
Any serious TEAEs	51 (24)	83 (20)
Study drug–related serious TEAEs	3 (1)[d]	2 (< 1)[e]
Study drug discontinuation due to TEAE	6 (3)[f]	4 (1)[g]
Death	3 (1)[h]	5 (1)[i]

Data shown as n (%). N values represent numbers of participants. [a]Through the end of the study. [b]Abdominal pain, chest pain, and generalized tonic-clonic seizure (n = 1 each). [c]Abdominal distension, diarrhea, elevated liver enzyme levels, osteoporosis, and suicide attempt (n = 1 each); and acute pancreatitis, atrial flutter, and dizziness (n = 1). [d]Chest pain, generalized tonic-clonic seizure, and spontaneous abortion (n = 1 each). [e]Acute pancreatitis, atrial flutter, and dizziness (n = 1); and suicide attempt (n = 1). [f]Chest pain, COVID-19, intervertebral discitis, toxicity to various agents, obesity, and paranoia (n = 1 each). [g]Cardiac arrest, abdominal distension, dyspepsia, tension headache, depressed mood, depression, insomnia, and sleep disorder (n = 1 each); participants could have ≥ 1 event. [h]Cardiac arrest, COVID-19, and drug toxicity (n = 1 each). [i]Cardiac arrect, hemorrhagic hypovolemia (self-inflicted), hypertensive heart disease with congestive heart failure, poorly differentiated gastric adenocarcinoma, and an unknown cause (n = 1 each).
TEAE, treatment-emergent adverse event.

- A significantly smaller proportion of Black versus non-Black participants experienced study drug–related treatment-emergent adverse events (TEAEs) (*P* = 0.0026; Fisher exact test)
- Study drug–related TEAEs experienced by ≥ 5% of Black or non-Black participants, respectively, were diarrhea (3% and 5%), nausea (3% and 5%), and headache (2% and 6%)

Change From Baseline in eGFR and TC:HDL Ratio at Week 240

		Black n = 211		Non-Black n = 421		*P* Value
		Median (Q1, Q3)	n	Median (Q1, Q3)	n	
eGFR,[a] mL/min	Baseline	128 (104, 153)	211	121 (104, 140)	421	0.0791
	Change at Week 240	-11 (-21, 1)	145	-7 (-18, 3)	284	0.1468
TC:HDL ratio[b]	Baseline	3.5 (2.9, 4.2)	204	3.9 (3.1, 4.7)	414	< 0.0001
	Change at Week 240	0.0 (-0.6, 0.5)	139	0.1 (-0.4, 0.7)	271	0.0927

Baseline value was defined as the last non-missing value obtained on or prior to the first dose of B/F/TAF. *P* values were from the 2-sided Wilcoxon rank sum test.
[a]By Cockcroft-Gault equation. [b]Only laboratory measurements under fasting status are summarized.
B/F/TAF, bictegravir/emtricitabine/tenofovir alafenamide; eGFR, estimated glomerular filtration rate; HDL, high-density lipoprotein; TC, total cholesterol.

QR CODE
For more information on metabolic and renal outcomes, please scan the QR code

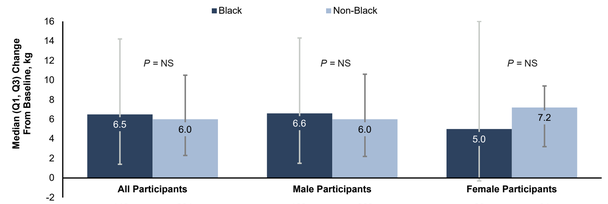
- Changes in renal function (estimated glomerular filtration rate [eGFR]) at Week 240 were not statistically significant and were similar between groups
- Changes from baseline in total cholesterol:high-density lipoprotein (TC:HDL) ratio at Week 240 were similar for Black and non-Black participants, despite significant between-groups differences in TC:HDL ratio at baseline

Body Weight at Baseline

		Black		Non-Black		*P* Value
		Median (Q1, Q3)	n	Median (Q1, Q3)	n	
Body weight, kg	All participants	80.7 (70.3, 92.5)	211	75.3 (67.1, 85.3)	421	0.0003
	Male	81.4 (70.7, 94.0)	178	75.5 (68.0, 85.3)	385	0.0006
	Female	79.1 (68.5, 88.0)	33	69.6 (58.0, 86.5)	36	0.1332

Q, quartile.

Change From Baseline in Body Weight At Week 240



Baseline value was defined as the last non-missing value obtained on or prior to the first dose of B/F/TAF. *P* values were from the 2-sided Wilcoxon rank sum test.
B/F/TAF, bictegravir/emtricitabine/tenofovir alafenamide; NS, not significant; Q, quartile.

- Body weight was significantly higher in Black versus non-Black participants at baseline (*P* = 0.0003)
- Despite significant differences between groups at baseline, changes in metabolic parameters, including body weight, were not statistically significant and were similar between groups at Week 240

Treatment-Emergent Diabetes and Hypertension Through Week 240

	Black n = 211		Non-Black n = 421		*P* Value
	n (%)	Participants With Available Data, n	n (%)	Participants With Available Data, n	
Treatment-emergent diabetes[a]	7 (4)	193	6 (2)	398	0.1328
Treatment-emergent hypertension[a]	21 (12)	170	35 (10)	368	0.3622

[a]Participants with a medical history of diabetes/hypertension were excluded.

- Rates of treatment-emergent diabetes, and hypertension were similar between groups
- The proportion of participants initiating lipid-modifying agents during the study was similar in both groups (8% and 7% in Black and non-Black participants, respectively)

References: **1**. CDC. https://www.cdc.gov/hiv/data-research/facts-stats/race-ethnicity.html (accessed July 18, 2024). **2**. HIV.gov. https://www.hiv.gov/hiv-basics/overview/data-and-trends/impact-on-racial-and-ethnic-minorities (accessed July 18, 2024). **3**. Kalgotra P, et al. *Sci Rep*. 2020;10:13538. **4**. AIDSmap. https://www.aidsmap.com/news/may-2020/black-people-and-women-are-under-represented-anti-hiv-drug-studies (accessed July 18, 2024). **5**. Castillo-Mancilla JR, et al. *HIV Clin Trials*. 2014;15:14-26. **6**. Gallant J, et al. *Lancet*. 2017;390:2063-72. **7**. Sax P, et al. *EClinicalMedicine*. 2023;59:101991. **8**. Sax P, et al. *Lancet*. 2017;390:2073-82.

Acknowledgments: We thank all study participants, participating study investigators, and staff. We thank Dr Jose Arribas for his contributions to the study. These studies were funded by Gilead Sciences, Inc. Medical writing support was provided by Joanna Nikitorowicz-Buniak, PhD (Aspire Scientific Ltd, UK), and was funded by Gilead Sciences, Inc.

Disclosures: **AW** reports honoraria for participation in speakers' bureaus from Gilead Sciences, Inc. **YY** and **DH** report no conflicts of interest. **CO** reports research grants from ViiV Healthcare; honoraria from Gilead Sciences, Inc., GSK, MSP, and ViiV Healthcare; travel grants from Gilead Sciences, Inc.; and unpaid membership on the IAS governing council. **HL**, **RR**, **DM**, and **JTH** are employees of and hold stock in Gilead Sciences, Inc.