

ClinicalTrials.gov Protocol and Results Registration System (PRS) Receipt
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Grantor: CDER IND/IDE Number: 71,576 Serial Number:

Treatment of Persistent Viremia (Virus in Blood) in Chronic Hepatitis B Subjects Already Receiving Adefovir Dipivoxil

This study has been completed.

Sponsor:	Gilead Sciences
Collaborators:	
Information provided by (Responsible Party):	Gilead Sciences
ClinicalTrials.gov Identifier:	NCT00307489

Purpose

This study explores the efficacy, safety and tolerability of tenofovir DF (TDF) 300 mg once daily monotherapy versus the combination of emtricitabine 200 mg plus tenofovir DF 300 mg (FTC/TDF) once daily in subjects currently being treated with adefovir dipivoxil (Hepsera) for chronic hepatitis B who have persistent viral replication (detectable hepatitis B virus deoxyribonucleic acid [HBV DNA]).

Subjects with confirmed (within 4 weeks) plasma HBV DNA \geq 400 copies/mL during double blind treatment at Week 24 or any time thereafter have the option of receiving 12 weeks of open-label FTC/TDF which may be continued through the end of the 168-week treatment period if there is a virologic response (HBV DNA < 400 copies/mL). Alternatively, subjects with confirmed HBV DNA < 400 copies/mL at or any time after Week 24 of double-blind treatment may continue blinded therapy up to Week 168 at the discretion of the investigator. If, in the investigator's opinion, it is felt that continued blinded treatment beyond 24 weeks in subjects with confirmed HBV DNA \geq 400 copies/mL is not beneficial, the subject may discontinue the study and begin commercially available HBV therapy rather than initiate open-label FTC/TDF.

Condition	Intervention	Phase
Chronic Hepatitis B	Drug: tenofovir DF Drug: emtricitabine /tenofovir DF	Phase 2

Study Type: Interventional

Study Design: Treatment, Parallel Assignment, Double Blind (Subject, Investigator, Outcomes Assessor), Randomized, Safety/Efficacy Study

Official Title: A Phase 2, Randomized, Double-Blind Study Exploring the Efficacy, Safety and Tolerability of Tenofovir Disoproxil Fumarate (DF) Monotherapy Versus Emtricitabine Plus Tenofovir DF Fixed-Dose Combination Therapy in Subjects Currently Being Treated With Adefovir Dipivoxil for Chronic Hepatitis B and Having Persistent Viral Replication

Further study details as provided by Gilead Sciences:

Primary Outcome Measure:

- Percentage of Participants With Plasma HBV DNA < 169 Copies/mL at Week 48 [Time Frame: 48 weeks] [Designated as safety issue: No]
- Percentage of Participants With Plasma HBV DNA < 400 Copies/mL at Week 48 [Time Frame: 48 Weeks] [Designated as safety issue: No]

Secondary Outcome Measures:

- Change From Baseline in log₁₀ Plasma HBV DNA Levels at Week 48 [Time Frame: 48 Weeks] [Designated as safety issue: No]
- Change From Baseline in Alanine Aminotransferase (ALT) Levels at Week 48 [Time Frame: 48 Weeks] [Designated as safety issue: No]
- Percentage of Participants With Normal ALT at Week 48 [Time Frame: 48 Weeks] [Designated as safety issue: No]
ULN for males = 43 U/L; 34 U/L for females
- Percentage of Participants With Normalized ALT at Week 48 [Time Frame: 48 Weeks] [Designated as safety issue: No]
Subjects with elevated ALT at baseline that return to normal by Week 48.
- Hepatitis B Early Antigen (HBeAg) Loss at Week 48 [Time Frame: 48 Weeks] [Designated as safety issue: No]
Defined as having negative serum HBeAg for subjects with positive HBeAg at baseline.
- HBeAg Seroconversion at Week 48 [Time Frame: 48 Weeks] [Designated as safety issue: No]
Defined as having negative serum HBeAg and positive serum antibody to HBeAg [anti-HBe] for subjects with positive serum HBeAg at baseline.
- HBsAg Loss at Week 48 [Time Frame: 48 Weeks] [Designated as safety issue: No]
Defined as having negative serum HBsAg for subjects with positive HBsAg at baseline.
- Hepatitis B Surface Antigen (HBsAg) Seroconversion at Week 48 [Time Frame: 48 Weeks] [Designated as safety issue: No]
Defined as having negative serum HBsAg and positive serum antibody to HBsAg [anti-HBs] for subject with positive serum HBsAg at baseline.
- Change From Baseline in log₁₀ Plasma HBV DNA Levels at Week 168 [Time Frame: 168 weeks] [Designated as safety issue: No]
- Change From Baseline in Alanine Aminotransferase (ALT) Levels at Week 168 [Time Frame: 168 weeks] [Designated as safety issue: No]
- Percentage of Participants With Plasma HBV DNA < 400 Copies/mL at Week 168 [Time Frame: 168 weeks] [Designated as safety issue: No]
- Percentage of Participants With Normal ALT at Week 168 [Time Frame: 168 weeks] [Designated as safety issue: No]
ULN for males = 43 U/L; ULN for females = 34 U/L
- Percentage of Participants With Normalized ALT at Week 168 [Time Frame: 168 weeks] [Designated as safety issue: No]
Subjects with elevated ALT at baseline that return to normal by Week 48.
- Hepatitis B Early Antigen (HBeAg) Loss at Week 168 [Time Frame: 168 weeks] [Designated as safety issue: No]
Defined as having negative serum HBeAg for subject with positive HBeAg at baseline.
- Hepatitis B Surface Antigen (HBsAg) Seroconversion at Week 168 [Time Frame: 168 weeks] [Designated as safety issue: No]
Defined as having negative serum HBsAg and positive serum antibody to HBsAg (anti-HBs) for subject with positive serum HBsAg at baseline.
- HBsAg Loss at Week 168 [Time Frame: 168 weeks] [Designated as safety issue: No]
Defined as having negative serum HBsAg for subjects with positive HBsAg at baseline.
- Percentage of Participants With Plasma HBV DNA < 169 Copies/mL at Week 168 [Time Frame: 168 weeks] [Designated as safety issue: No]
P-values were from a Cochran-Mantel-Haenszel test, controlling for baseline HBeAg status and prior lamivudine use.

Enrollment: 106

Study Start Date: March 2006

Primary Completion Date: January 2008

Study Completion Date: October 2010

Arms	Assigned Interventions
Experimental: 1 TDF	Drug: tenofovir DF 300 mg tablet, once daily (QD)
Experimental: 2 FTC/TDF	Drug: emtricitabine /tenofovir DF emtricitabine 200 mg/tenofovir DF 300 mg once daily (combination tablet)

► Eligibility

Ages Eligible for Study: 18 Years to 69 Years

Genders Eligible for Study: Both

Accepts Healthy Volunteers: No

Criteria

Inclusion Criteria:

- 18 through 69 years of age, inclusive
- Chronic HBV infection, defined as positive serum HBsAg for at least 6 months
- Active chronic HBV infection with all the following:
 - a. Currently treated with adefovir dipivoxil 10 mg QD (for at least 24 weeks but not more than 96 weeks)
 - b. HBeAg positive or negative at screening
 - c. Plasma HBV DNA \geq 1000 copies/mL at screening (irrespective of HBeAg status)
 - d. Serum ALT less than 10 times the upper limit of normal (ULN)
 - e. Calculated creatinine clearance of at least 70 mL/min using the Cockcroft-Gault formula
 - f. Hemoglobin at least 8 g/dL
 - g. Neutrophils at least 1,000 /mm³
- Nucleoside naive except for lamivudine (\geq 12 weeks of therapy)
- Negative serum beta human chorionic gonadotropin
- Compliant with adefovir dipivoxil
- Willing and able to provide written informed consent

Exclusion Criteria:

- Pregnant women, women who are breastfeeding or who believe they may wish to become pregnant during the course of the study
- Male or females of reproductive potential who are unwilling to use an effective method of contraceptive while enrolled in the study. For males, condoms should be used and for females, a barrier contraception method should be used
- Decompensated liver disease defined as conjugated bilirubin greater than 1.5 times ULN, prothrombin time (PT) greater than 1.5 times ULN, platelets less than 75,000/mm³, serum albumin less than 3.0 g/dL, or prior history of clinical hepatic decompensation (eg, ascites, jaundice, encephalopathy, variceal hemorrhage)
- Prior use of tenofovir DF or entecavir
- Received treatment with interferon or pegylated interferon within 6 months of the screening visit
- Evidence of hepatocellular carcinoma (HCC); for example, alpha-fetoprotein greater than 50 ng/mL or by any other standard of care measure.
- Co-infection with HCV (based on serology), human immunodeficiency virus (HIV), or hepatitis delta virus (HDV)

- Significant renal, cardiovascular, pulmonary, or neurological disease.
- Received solid organ or bone marrow transplantation.
- Is currently receiving therapy with immunomodulators (eg, corticosteroids, etc.), investigational agents, nephrotoxic agents, or agents capable of modifying renal excretion
- Has proximal tubulopathy
- Known hypersensitivity to the study drugs (tenofovir DF or emtricitabine/tenofovir DF), the metabolites (tenofovir or emtricitabine) or formulation excipients

Contacts and Locations

Locations

United States, California

San Francisco, California, United States, 94115

San Jose, California, United States, 95128

United States, New York

Flushing, New York, United States, 11355

New York, New York, United States, 10013

New York, New York, United States, 10021

New York, New York, United States, 10016

United States, Pennsylvania

Philadelphia, Pennsylvania, United States, 19107

United States, Virginia

Fairfax, Virginia, United States, 22031

Norfolk, Virginia, United States, 23502

Richmond, Virginia, United States, 23249

France

Angers, France, 49933

Clichy, France, 92110

Lille, France, 59037

Lyon, France, 69288

Marseille, France, 13285

Rouen, France, 76031

Strasbourg, France, 67091

Germany

Berlin, Germany, 13353

Berlin, Germany, 10969

Bonn, Germany, 53105

Erlangen, Germany, 91054

Essen, Germany, 45122

Frankfurt, Germany, 60590

Hamburg, Germany, 20999

Hannover, Germany, 30623

Herne, Germany, 44623

Munchen, Germany, 81377

Spain

Investigators

Study Director:

Stephen J Rossi, PharmD

Gilead Sciences

More Information

Results Publications:

van Bömmel F, Zöllner B, Sarrazin C, Spengler U, Hüppe D, Möller B, Feucht HH, Wiedenmann B, Berg T. Tenofovir for patients with lamivudine-resistant hepatitis B virus (HBV) infection and high HBV DNA level during adefovir therapy. *Hepatology*. 2006 Aug;44(2):318-25.

Marcellin P, Heathcote EJ, Buti M, Gane E, de Man RA, Krastev Z, Germanidis G, Lee SS, Flisiak R, Kaita K, Manns M, Kotzev I, Tchernev K, Buggisch P, Weilert F, Kurdas OO, Shiffman ML, Trinh H, Washington MK, Sorbel J, Anderson J, Snow-Lampart A, Mondou E, Quinn J, Rousseau F. Tenofovir disoproxil fumarate versus adefovir dipivoxil for chronic hepatitis B. *N Engl J Med*. 2008 Dec 4;359(23):2442-55. doi: 10.1056/NEJMoa0802878.

Reijnders JG, Janssen HL. Potency of tenofovir in chronic hepatitis B: mono or combination therapy? *J Hepatol*. 2008 Mar;48(3):383-6. doi: 10.1016/j.jhep.2007.12.006. Epub 2007 Dec 31.

Tan J, Degertekin B, Wong SN, Husain M, Oberhelman K, Lok AS. Tenofovir monotherapy is effective in hepatitis B patients with antiviral treatment failure to adefovir in the absence of adefovir-resistant mutations. *J Hepatol*. 2008 Mar;48(3):391-8. doi: 10.1016/j.jhep.2007.09.020. Epub 2008 Jan 3.

van Bömmel F, de Man RA, Wedemeyer H, Deterding K, Petersen J, Buggisch P, Erhardt A, Hüppe D, Stein K, Trojan J, Sarrazin C, Böcher WO, Spengler U, Wasmuth HE, Reinders JG, Möller B, Rhode P, Feucht HH, Wiedenmann B, Berg T. Long-term efficacy of tenofovir monotherapy for hepatitis B virus-monoinfected patients after failure of nucleoside/nucleotide analogues. *Hepatology*. 2010 Jan;51(1):73-80. doi: 10.1002/hep.23246.

Berg T, Marcellin P, Zoulim F, Moller B, Trinh H, Chan S, Suarez E, Lavocat F, Snow-Lampart A, Frederick D, Sorbel J, Borroto-Esoda K, Oldach D, Rousseau F. Tenofovir is effective alone or with emtricitabine in adefovir-treated patients with chronic-hepatitis B virus infection. *Gastroenterology*. 2010 Oct;139(4):1207-17. doi: 10.1053/j.gastro.2010.06.053. Epub 2010 Jun 20.

Responsible Party: Gilead Sciences

Study ID Numbers: GS-US-174-0106

Health Authority: United States: Food and Drug Administration

Study Results

Participant Flow

Recruitment Details	A total of 106 subjects were randomized (105 of which were subsequently treated) across 28 study centers in the US, Germany, France and Spain between 24 April 2006 and 07 March 2007.
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Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Baseline Through Week 48

	Tenofovir DF	Emtricitibine/Tenofovir DF
Started	53	52
Completed	52 ^[1]	50 ^[2]
Not Completed	1	2
Lost to Follow-up	0	1
Physician Decision	1	0
Withdrawal by Subject	0	1

[1] 16 of the 52 subjects switched to open-label FTC/TDF prior to Week 48.

[2] 9 of the 50 subjects switched to open-label FTC/TDF prior to Week 48.

Week 48 Through Week 168

	Tenofovir DF	Emtricitibine/Tenofovir DF
Started	52	50
Completed	46 ^[1]	44 ^[2]
Not Completed	6	6
Adverse Event	1	0
Physician Decision	1	0
Withdrawal by Subject	1	2
Lack of Efficacy	2	2
Death	0	1
Lost to Follow-up	0	1
Seroconversion	1	0

[1] 11 of the 46 subjects switched to open-label FTC/TDF prior to Week 168.

[2] 5 of the 44 subjects switched to open-label FTC/TDF prior to Week 168.

▶ Baseline Characteristics

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitabine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Baseline Measures

	Tenofovir DF	Emtricitabine/Tenofovir DF	Total
Number of Participants	53	52	105
Age, Continuous [units: years] Mean (Standard Deviation)	40 (11.4)	39 (10.4)	39 (10.9)
Gender, Male/Female [units: participants]			
Female	15	10	25
Male	38	42	80
Race/Ethnicity, Customized [units: Participants]			
Asian	26	18	44
Black or African American	2	8	10
White	23	21	44
Other	2	5	7
Previous Lamivudine Experience [units: participants]			
Yes	30	31	61
No	23	21	44
Baseline HBV DNA [units: log ₁₀ copies/mL] Mean (Standard Deviation)	6.06 (1.430)	5.87 (1.779)	5.97 (1.607)

Outcome Measures

1. Primary Outcome Measure:

Measure Title	Percentage of Participants With Plasma HBV DNA < 169 Copies/mL at Week 48
Measure Description	
Time Frame	48 weeks
Safety Issue?	No

Analysis Population Description

Randomized and Treated (RAT) subjects at Week 48 - Non-Completers=Failure (ie, includes subjects who switched to open-label FTC/TDF at or after Week 24)

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	53	52
Percentage of Participants With Plasma HBV DNA < 169 Copies/mL at Week 48 [units: percentage of participants]	75.5	69.2

Statistical Analysis 1 for Percentage of Participants With Plasma HBV DNA < 169 Copies/mL at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	.544
	Comments	P-values were from a Cochran-Mantel-Haenszel test, controlling for baseline HBeAg status and prior lamivudine use.

	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

2. Primary Outcome Measure:

Measure Title	Percentage of Participants With Plasma HBV DNA < 400 Copies/mL at Week 48
Measure Description	
Time Frame	48 Weeks
Safety Issue?	No
Anticipated Reporting Date	January 2009

Analysis Population Description

RAT Analysis Set Non-Completers=Failure

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	53	52
Percentage of Participants With Plasma HBV DNA < 400 Copies/mL at Week 48 [units: percentage of participants]	81.1	80.8

Statistical Analysis 1 for Percentage of Participants With Plasma HBV DNA < 400 Copies/mL at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]

Statistical Test of Hypothesis	P-Value	0.988
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

3. Secondary Outcome Measure:

Measure Title	Change From Baseline in log10 Plasma HBV DNA Levels at Week 48
Measure Description	
Time Frame	48 Weeks
Safety Issue?	No

Analysis Population Description RAT Analysis Set

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	52	50
Change From Baseline in log10 Plasma HBV DNA Levels at Week 48 [units: log10 copies/mL] Mean (Standard Deviation)	-3.58 (1.290)	-3.34 (1.753)

Statistical Analysis 1 for Change From Baseline in log10 Plasma HBV DNA Levels at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No

	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.208
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Other [van Elteren]
	Comments	[Not specified]

4. Secondary Outcome Measure:

Measure Title	Change From Baseline in Alanine Aminotransferase (ALT) Levels at Week 48
Measure Description	
Time Frame	48 Weeks
Safety Issue?	No
Anticipated Reporting Date	January 2009

Analysis Population Description RAT Analysis Set

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	50	50
Change From Baseline in Alanine Aminotransferase (ALT) Levels at Week 48 [units: U/mL] Mean (Standard Deviation)	-21.6 (54.53)	-41.4 (151.67)

Statistical Analysis 1 for Change From Baseline in Alanine Aminotransferase (ALT) Levels at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]

	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.712
	Comments	Controlling for baseline HBeAg and prior lamivudine use.
	Method	Other [van Elteren]
	Comments	[Not specified]

5. Secondary Outcome Measure:

Measure Title	Percentage of Participants With Normal ALT at Week 48
Measure Description	ULN for males = 43 U/L; 34 U/L for females
Time Frame	48 Weeks
Safety Issue?	No
Anticipated Reporting Date	January 2009

Analysis Population Description

RAT Analysis Set Non-Completers=Failure

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	51	52
Percentage of Participants With Normal ALT at Week 48 [units: percentage of participants]	66.7	73.1

Statistical Analysis 1 for Percentage of Participants With Normal ALT at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.423
	Comments	Controlling for baseline HBeAg status and prior lamivudine use
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

6. Secondary Outcome Measure:

Measure Title	Percentage of Participants With Normalized ALT at Week 48
Measure Description	Subjects with elevated ALT at baseline that return to normal by Week 48.
Time Frame	48 Weeks
Safety Issue?	No

Analysis Population Description

RAT Analysis Set - subjects with ALT above ULN at baseline. Non-Completers=Failure

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	27	26
Percentage of Participants With Normalized ALT at Week 48 [units: percentage of participants]	40.7	61.5

Statistical Analysis 1 for Percentage of Participants With Normalized ALT at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.109
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

7. Secondary Outcome Measure:

Measure Title	Hepatitis B Early Antigen (HBeAg) Loss at Week 48
Measure Description	Defined as having negative serum HBeAg for subjects with positive HBeAg at baseline.
Time Frame	48 Weeks
Safety Issue?	No
Anticipated Reporting Date	January 2009

Analysis Population Description

RAT Analysis Set with Positive HBeAg at Baseline. Non-Completers=Failure

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	38	39
Hepatitis B Early Antigen (HBeAg) Loss at Week 48 [units: participants]	3	3

Statistical Analysis 1 for Hepatitis B Early Antigen (HBeAg) Loss at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.952
	Comments	[Not specified]
	Method	Cochran-Mantel-Haenszel
	Comments	Controlling for baseline HBeAg and prior lamivudine use.

8. Secondary Outcome Measure:

Measure Title	HBeAg Seroconversion at Week 48
Measure Description	Defined as having negative serum HBeAg and positive serum antibody to HBeAg [anti-HBe] for subjects with positive serum HBeAg at baseline.
Time Frame	48 Weeks
Safety Issue?	No

Analysis Population Description

RAT Analysis Set with Positive Baseline HBeAg. Non-Completers=Failure

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	38	39
HBeAg Seroconversion at Week 48 [units: participants]	2	3

Statistical Analysis 1 for HBeAg Seroconversion at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.655
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

9. Secondary Outcome Measure:

Measure Title	HBsAg Loss at Week 48
Measure Description	Defined as having negative serum HBsAg for subjects with positive HBsAg at baseline.
Time Frame	48 Weeks
Safety Issue?	No

Analysis Population Description

RAT Analysis Set Non-Completers=Failure

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	53	51
HBsAg Loss at Week 48 [units: participants]	1	0

Statistical Analysis 1 for HBsAg Loss at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.401
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

10. Secondary Outcome Measure:

Measure Title	Hepatitis B Surface Antigen (HBsAg) Seroconversion at Week 48
Measure Description	Defined as having negative serum HBsAg and positive serum antibody to HBsAg [anti-HBs] for subject with positive serum HBsAg at baseline.
Time Frame	48 Weeks
Safety Issue?	No

Analysis Population Description

RAT Analysis Set Non-Completers=Failure

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	53	51
Hepatitis B Surface Antigen (HBsAg) Seroconversion at Week 48 [units: participants]	1	0

Statistical Analysis 1 for Hepatitis B Surface Antigen (HBsAg) Seroconversion at Week 48

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.401
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

11. Secondary Outcome Measure:

Measure Title	Change From Baseline in log10 Plasma HBV DNA Levels at Week 168
Measure Description	
Time Frame	168 weeks
Safety Issue?	No
Anticipated Reporting Date	October 2011

Analysis Population Description
 Non-completers = failure analysis

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	53	52

	Tenofovir DF	Emtricitibine/Tenofovir DF
Change From Baseline in log10 Plasma HBV DNA Levels at Week 168 [units: log10 copies/mL] Mean (Standard Deviation)	-3.79 (1.305)	-3.48 (1.629)

Statistical Analysis 1 for Change From Baseline in log10 Plasma HBV DNA Levels at Week 168

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]

Statistical Test of Hypothesis	P-Value	0.103
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Other [van Elteren]
	Comments	[Not specified]

12. Secondary Outcome Measure:

Measure Title	Change From Baseline in Alanine Aminotransferase (ALT) Levels at Week 168
Measure Description	
Time Frame	168 weeks
Safety Issue?	No
Anticipated Reporting Date	October 2011

Analysis Population Description

Non-completers = failure analysis

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	53	52
Change From Baseline in Alanine Aminotransferase (ALT) Levels at Week 168 [units: U/mL] Mean (Standard Deviation)	-26.8 (60.23)	-54.5 (141.63)

Statistical Analysis 1 for Change From Baseline in Alanine Aminotransferase (ALT) Levels at Week 168

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.999
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Other [van Elteren]
	Comments	[Not specified]

13. Secondary Outcome Measure:

Measure Title	Percentage of Participants With Plasma HBV DNA < 400 Copies/mL at Week 168
Measure Description	
Time Frame	168 weeks
Safety Issue?	No
Anticipated Reporting Date	October 2011

Analysis Population Description

Non-completers = failure analysis

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD

	Description
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	53	52
Percentage of Participants With Plasma HBV DNA < 400 Copies/mL at Week 168 [units: Percent of Participants]	82.4	84.0

Statistical Analysis 1 for Percentage of Participants With Plasma HBV DNA < 400 Copies/mL at Week 168

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.781
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

14. Secondary Outcome Measure:

Measure Title	Percentage of Participants With Normal ALT at Week 168
Measure Description	ULN for males = 43 U/L; ULN for females = 34 U/L
Time Frame	168 weeks
Safety Issue?	No
Anticipated Reporting Date	October 2011

Analysis Population Description

Non-completers = failure analysis

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	50	50
Percentage of Participants With Normal ALT at Week 168 [units: Percent of Participants]	74.0	74.0

Statistical Analysis 1 for Percentage of Participants With Normal ALT at Week 168

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.936
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

15. Secondary Outcome Measure:

Measure Title	Percentage of Participants With Normalized ALT at Week 168
Measure Description	Subjects with elevated ALT at baseline that return to normal by Week 48.
Time Frame	168 weeks
Safety Issue?	No
Anticipated Reporting Date	October 2011

Analysis Population Description
[Not Specified]

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	25	24
Percentage of Participants With Normalized ALT at Week 168 [units: Percent of Participants]	68.0	70.8

Statistical Analysis 1 for Percentage of Participants With Normalized ALT at Week 168

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]

Statistical Test of Hypothesis	P-Value	0.784
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

16. Secondary Outcome Measure:

Measure Title	Hepatitis B Early Antigen (HBeAg) Loss at Week 168
Measure Description	Defined as having negative serum HBeAg for subject with positive HBeAg at baseline.
Time Frame	168 weeks
Safety Issue?	No

Anticipated Reporting Date	October 2011
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Analysis Population Description
 Non-completer = Failure Analysis

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	37	37
Hepatitis B Early Antigen (HBeAg) Loss at Week 168 [units: Percent of Participants]	21.6	24.3

Statistical Analysis 1 for Hepatitis B Early Antigen (HBeAg) Loss at Week 168

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]

Statistical Test of Hypothesis	P-Value	0.703
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

17. Secondary Outcome Measure:

Measure Title	Hepatitis B Surface Antigen (HBsAg) Seroconversion at Week 168
Measure Description	Defined as having negative serum BHsAg and positive serum antibody to HBsAg (anti-HBs) for subject with positive serum BHsAg at baseline.
Time Frame	168 weeks

Safety Issue?	No
Anticipated Reporting Date	October 2011

Analysis Population Description
 Non-completer = Failure Analysis

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	51	51
Hepatitis B Surface Antigen (HBsAg) Seroconversion at Week 168 [units: Participants]	1	0

Statistical Analysis 1 for Hepatitis B Surface Antigen (HBsAg) Seroconversion at Week 168

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]

Statistical Test of Hypothesis	P-Value	0.254
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

18. Secondary Outcome Measure:

Measure Title	HBsAg Loss at Week 168
Measure Description	Defined as having negative serum HBsAg for subjects with positive HBsAg at baseline.

Time Frame	168 weeks
Safety Issue?	No
Anticipated Reporting Date	October 2011

Analysis Population Description
[Not Specified]

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	51	51
HBsAg Loss at Week 168 [units: Participants]	1	0

Statistical Analysis 1 for HBsAg Loss at Week 168

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.254
	Comments	Controlling for baseline HBeAg status and prior lamivudine use.
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

19. Secondary Outcome Measure:

Measure Title	Percentage of Participants With Plasma HBV DNA < 169 Copies/mL at Week 168
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Measure Description	P-values were from a Cochran-Mantel-Haenszel test, controlling for baseline HBeAg status and prior lamivudine use.
Time Frame	168 weeks
Safety Issue?	No
Anticipated Reporting Date	November 2011

Analysis Population Description
 Non-completers = failure analysis

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Measured Values

	Tenofovir DF	Emtricitibine/Tenofovir DF
Number of Participants Analyzed	51	50
Percentage of Participants With Plasma HBV DNA < 169 Copies/mL at Week 168 [units: Percent of Participants]	80.4	78.0

Statistical Analysis 1 for Percentage of Participants With Plasma HBV DNA < 169 Copies/mL at Week 168

Statistical Analysis Overview	Comparison Groups	Tenofovir DF, Emtricitibine/Tenofovir DF
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.878
	Comments	[Not specified]
	Method	Cochran-Mantel-Haenszel
	Comments	[Not specified]

Reported Adverse Events

Time Frame	168 weeks
Additional Description	[Not specified]

Reporting Groups

	Description
Tenofovir DF	tenofovir DF 300 mg QD
Emtricitibine/Tenofovir DF	emtricitabine 200 mg / tenofovir DF 300 mg QD (combination tablet)

Serious Adverse Events

	Tenofovir DF	Emtricitibine/Tenofovir DF
	Affected/At Risk (%)	Affected/At Risk (%)
Total	6/	10/
Blood and lymphatic system disorders		
Anaemia †	1/53 (1.89%)	0/52 (0%)
Cardiac disorders		
Atrial Fibrillation *	0/53 (0%)	1/52 (1.92%)
Gastrointestinal disorders		
Colitis ulcerative *	1/53 (1.89%)	0/52 (0%)
General disorders		
Chest Pain ^A *	1/53 (1.89%)	0/52 (0%)
Oedema Peripheral ^A *	1/53 (1.89%)	0/52 (0%)
Infections and infestations		
Appendicitis *	0/53 (0%)	1/52 (1.92%)
Chronic Sinusitis ^A *	0/53 (0%)	1/52 (1.92%)
Gastroenteritis *	1/53 (1.89%)	0/52 (0%)
Sepsis *	0/53 (0%)	1/52 (1.92%)
Investigations		

	Tenofovir DF	Emtricitibine/Tenofovir DF
	Affected/At Risk (%)	Affected/At Risk (%)
Alanine Aminotransferase Increased ^{A †}	0/53 (0%)	2/52 (3.85%)
Musculoskeletal and connective tissue disorders		
Intervertebral Disc Protrusion *	0/53 (0%)	1/52 (1.92%)
Neoplasms benign, malignant and unspecified (incl cysts and polyps)		
Fibroadenoma of Breast *	0/53 (0%)	1/52 (1.92%)
Lymphoma *	0/53 (0%)	1/52 (1.92%)
Waldenstrom's Macroglobulinaemia *	1/53 (1.89%)	0/52 (0%)
Nervous system disorders		
Carotid Arteriosclerosis *	1/53 (1.89%)	0/52 (0%)
Cerebrovascular Accident ^{A *}	0/53 (0%)	1/52 (1.92%)
Hemiparesis ^{A *}	0/53 (0%)	1/52 (1.92%)
Pain *	0/53 (0%)	1/52 (1.92%)
Psychiatric disorders		
Alcoholism ^{A *}	0/53 (0%)	1/52 (1.92%)
Renal and urinary disorders		
Renal failure *	0/53 (0%)	1/52 (1.92%)
Reproductive system and breast disorders		
Bartholinitis *	0/53 (0%)	1/52 (1.92%)
Respiratory, thoracic and mediastinal disorders		
Dyspnoea ^{A *}	1/53 (1.89%)	0/52 (0%)
Respiratory failure *	0/53 (0%)	1/52 (1.92%)

† Indicates events were collected by systematic assessment.

* Indicates events were collected by non-systematic methods.

A Term from vocabulary, MedDRA 10.1

Other Adverse Events

Frequency Threshold Above Which Other Adverse Events are Reported: 5%

	Tenofovir DF	Emtricitibine/Tenofovir DF
	Affected/At Risk (%)	Affected/At Risk (%)
Total	49/	42/
Blood and lymphatic system disorders		
Anaemia †	3/53 (5.66%)	1/52 (1.92%)
Gastrointestinal disorders		
Abdominal Pain ^A *	5/53 (9.43%)	5/52 (9.62%)
Abdominal Pain Upper ^A *	8/53 (15.09%)	9/52 (17.31%)
Constipation *	2/53 (3.77%)	3/52 (5.77%)
Diarrhoea ^A *	5/53 (9.43%)	3/52 (5.77%)
Dyspepsia *	4/53 (7.55%)	2/52 (3.85%)
Gastroenteritis *	3/53 (5.66%)	1/52 (1.92%)
Haemorrhoids *	3/53 (5.66%)	1/52 (1.92%)
Nausea ^A *	5/53 (9.43%)	2/52 (3.85%)
General disorders		
Asthenia ^A *	7/53 (13.21%)	2/52 (3.85%)
Fatigue ^A *	9/53 (16.98%)	9/52 (17.31%)
Immune system disorders		
Seasonal allergy *	2/53 (3.77%)	3/52 (5.77%)
Infections and infestations		
Bronchitis *	3/53 (5.66%)	7/52 (13.46%)
Influenza *	3/53 (5.66%)	1/52 (1.92%)
Nasopharyngitis ^A *	16/53 (30.19%)	12/52 (23.08%)
Upper respiratory tract infection *	1/53 (1.89%)	3/52 (5.77%)
Urinary Tract Infection ^A *	5/53 (9.43%)	4/52 (7.69%)

	Tenofovir DF	Emtricitibine/Tenofovir DF
	Affected/At Risk (%)	Affected/At Risk (%)
Investigations		
Alanine Aminotransferase Increased †	0/53 (0%)	3/52 (5.77%)
Blood Creatine Phosphokinase Increased ^A †	0/53 (0%)	4/52 (7.69%)
Metabolism and nutrition disorders		
Decreased appetite *	3/53 (5.66%)	1/52 (1.92%)
Musculoskeletal and connective tissue disorders		
Arthralgia *	2/53 (3.77%)	5/52 (9.62%)
Back Pain *	9/53 (16.98%)	6/52 (11.54%)
Myalgia *	3/53 (5.66%)	1/52 (1.92%)
Pain in Extremity *	2/53 (3.77%)	4/52 (7.69%)
Nervous system disorders		
Dizziness ^A *	4/53 (7.55%)	4/52 (7.69%)
Headache ^B *	15/53 (28.3%)	10/52 (19.23%)
Paraesthesia *	0/53 (0%)	3/52 (5.77%)
Psychiatric disorders		
Depression *	1/53 (1.89%)	3/52 (5.77%)
Insomnia *	1/53 (1.89%)	3/52 (5.77%)
Respiratory, thoracic and mediastinal disorders		
Cough *	3/53 (5.66%)	1/52 (1.92%)
Pharyngolaryngeal Pain ^A *	8/53 (15.09%)	3/52 (5.77%)
Skin and subcutaneous tissue disorders		
Alopecia *	3/53 (5.66%)	1/52 (1.92%)
Pruritis *	3/53 (5.66%)	2/52 (3.85%)

† Indicates events were collected by systematic assessment.

* Indicates events were collected by non-systematic methods.

A Term from vocabulary, MedDRA 10.1

Limitations and Caveats

The randomized and treated (RAT) analysis set includes all subjects who were ongoing at the time of analysis (i.e., those on blinded therapy and those who switched to open-label FTC/TDF due to persistent viremia).

More Information

Certain Agreements:

Principal Investigators are NOT employed by the organization sponsoring the study.

There is NOT an agreement between the Principal Investigator and the Sponsor (or its agents) that restricts the PI's rights to discuss or publish trial results after the trial is completed.

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