ClinicalTrials.gov Protocol and Results Registration System (PRS) Receipt
Release Date: 05/02/2014

Grantor: CDER IND/IDE Number: 51-222 Serial Number:

A Trial of Degarelix in Patients With Prostate Cancer

This study has been completed.

Sponsor:	Ferring Pharmaceuticals
Collaborators:	
Information provided by (Responsible Party):	Ferring Pharmaceuticals
ClinicalTrials.gov Identifier:	NCT00946920

Purpose

A phase 3, open-label, parallel group, one year trial comparing the efficacy and safety of degarelix 3-month depot with the established therapy goserelin acetate 3-month implant in patients with prostate cancer.

Condition	Intervention	Phase
Prostate Cancer	Drug: Degarelix Drug: Goserelin acetate	Phase 3

Study Type: Interventional
Study Design: Treatment, Parallel Assignment, Open Label, Randomized, Safety/Efficacy Study
Official Title: An Open-Label, Multi-Centre, Randomised, Parallel-Arm One-Year Trial, Comparing the Efficacy and Safety of Degarelix Three-Month Dosing Regimen With Goserelin Acetate in Patients With Prostate Cancer Requiring Androgen Deprivation Therapy

Further study details as provided by Ferring Pharmaceuticals:

Primary Outcome Measure:

- Cumulative Probability of Testosterone at Castrate Level (≤0.5 ng/mL) With Degarelix [Time Frame: From Day 28 to Day 364] [Designated as safety issue: No]

This co-primary outcome measure was used to demonstrate that degarelix is effective with respect to achieving and maintaining testosterone suppression to castrate levels, evaluated as the proportion of patients with testosterone suppression ≤0.5 ng/mL from Day 28 to Day 364.

- Difference in Cumulative Probability of Testosterone at Castrate Level (≤0.5 ng/mL) Between Degarelix and Goserelin [Time Frame: Day 3 to Day 364] [Designated as safety issue: No]

  This co-primary outcome measure was used to establish non-inferiority of degarelix as compared to goserelin with regard to achieving and maintaining testosterone suppression at castrate levels (≤0.5 ng/mL) from Day 3 to Day 364, using a non-inferiority margin of 5 percentage points.

Secondary Outcome Measures:

- Serum Levels of Testosterone Over Time [Time Frame: Baseline and after 1, 2, 3, 6 and 13 months] [Designated as safety issue: No]

  Median testosterone levels are presented as absolute values at Baseline (in Baseline measures) and after 1, 2, 3, 6 and 13 months (below). One treatment month equals 28 days.
- Percent Change in Serum Levels of Prostate-specific Antigen (PSA) Over Time [Time Frame: Baseline and after 1, 2, 3, 6 and 13 months] [Designated as safety issue: No]

  Serum PSA levels are presented as mean percent change from Baseline (in Baseline measures) after 1, 2, 3, 6 and 13 months. One treatment month equals 28 days.
- Change in Health-related Quality of Life (HRQoL), as Measured by Short Form-36 (SF-36) Score at Month 10 and Month 13 Compared to Baseline [Time Frame: At baseline, 10 months and 13 months] [Designated as safety issue: No]

  The SF-36 is a multi-purpose, short-form health survey with only 36 questions and with a minimum score of 0 and a maximum score of 100. The higher score the better health. It yields an 8-scale profile of functional health and well-being scores as well as psychometrically-based physical and mental health summary measures and a preference-based health utility index. The SF-36 has proven useful in surveys of general and specific populations, comparing the relative burden of diseases, and in differentiating the health benefits produced by a wide range of different treatments.
- Change in International Prostate Symptom Score (IPSS) Score at Months 1, 4, 7, and 13 Compared to Baseline [Time Frame: At baseline, 1 month, 4 months, 7 months and 13 months] [Designated as safety issue: No]

  IPSS is used to assess severity of lower urinary tract symptoms and to monitor the progress of symptoms once treatment has been initiated. It contains 7 questions regarding incomplete emptying, frequency, intermittency, urgency, weak stream, straining, and nocturia. Each question is assigned a score of 0-5 (i.e. the minimum total score is 0 and the maximum is 35). A score of "0" corresponds to a response of "not at all" for the first six symptoms and "none" for nocturia, and a score of 5 corresponds to a response of "almost always" for the first six symptoms and "5 times or more" for nocturia.

Enrollment: 859
Study Start Date: June 2009
Primary Completion Date: March 2011
Study Completion Date: March 2011

Arms	Assigned Interventions
Experimental: Degarelix 240 mg/480 mg	Drug: Degarelix The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations). Other Names: Firmagon

Arms	Assigned Interventions
	FE200486
Active Comparator: Goserelin acetate	Drug: Goserelin acetate The goserelin doses were administered by subcutaneous (s.c.) implants into the abdominal wall. An initial dose of 3.6 mg goserelin was administered on Day 0. One month later a subsequent dose of 10.8 mg was administered and this was repeated after 4, 7, and 10 months (ie a total of 5 implants). Other Names: Zoladex

Eligibility

Ages Eligible for Study: 18 Years and older
Genders Eligible for Study: Male
Accepts Healthy Volunteers: No

Criteria

Inclusion Criteria:

- 18 years or older.
- Has a histological confirmed prostate cancer Gleason graded).
- Has a screening testosterone above 2.2 ng/mL.
- Rising prostate-specific antigen (PSA).
- Has Eastern Cooperative Oncology Group (ECOG) score of ≤ 2.
- Has a life expectancy of at least one year.

Exclusion Criteria:

- Current or previous hormone therapy.
- Has received therapy with finasteride and dutasteride within 12 weeks and 25 weeks, respectively, prior to screening.
- Has a history of severe untreated asthma, anaphylactic reactions, or severe urticaria and/or angioedema.
- Has a heart insufficiency.
- Has a previous history or presence of another malignancy, other than prostate cancer or treated squamous/basal cell carcinoma of the skin, within the last five years.
- Has a clinically significant medical condition (other than prostate cancer) including, but not limited to, renal, haematological, gastrointestinal, endocrine, cardiac, neurological, or psychiatric disease and alcohol or drug abuse or any other condition which may affect the patient's health or the outcome of the trial as judged by the Investigator.
- Has received an investigational drug within the last 28 days before the Screening Visit or longer if considered to possibly influencing the outcome of the current trial.
- Is candidate for curative therapy, i.e. radical prostatectomy or radiotherapy.

Contacts and Locations

Locations

- United States, Alabama
  - Urology Centers Of Alabama
    - Homewood, Alabama, United States
- United States, Arkansas
  - Arkansas Urology
    - Little Rock, Arkansas, United States
- United States, California
  - Advanced Urology Medical Center
    - Anaheim, California, United States
  - Urology Associates of Central CA
    - Fresno, California, United States
  - MEDRESEARCH
    - La Mesa, California, United States
  - South Orange County Medical Research Center
    - Laguna Hills, California, United States
  - Atlantic Urology Medical Group
    - Long Beach, California, United States
  - San Diego Uro-Research
    - San Diego, California, United States
- United States, Colorado
  - Anschutz Cancer Pavillion
    - Aurora, Colorado, United States
  - The Urology Center of Colorado
    - Denver, Colorado, United States
- United States, Connecticut
  - Urological Associates of Bridgeport, P.C.
    - Trumbull, Connecticut, United States
- United States, Delaware
  - Urology Associates of Dover, PA
    - Dover, Delaware, United States
- United States, District of Columbia
  - Walter Reed Army Medical Center
    - Washington, District of Columbia, United States
- United States, Florida
  - South Florida Medical Research
    - Aventura, Florida, United States
  - Specialists in Urology
    - Naples, Florida, United States
  - Florida Foundation for Healthcare Research
    - Ocala, Florida, United States
  - Georgis Patsias, MD, PA

Wellington, Florida, United States
Palm Beach Urology Associates, PA
Wellington, Florida, United States
United States, Georgia
Midtown Urology
Atlanta, Georgia, United States
United States, Indiana
Indiana University Department of Urology
Indianapolis, Indiana, United States
United States, Kansas
Kansas City Urology Care, PA
Overland Park, Kansas, United States
United States, Louisiana
Regional Urology
Shreveport, Louisiana, United States
United States, Nevada
Sheldon J. Freedman, Md, Ltd.
Las Vegas, Nevada, United States
United States, New Jersey
Urological Associates of Englewood
Englewood, New Jersey, United States
Hamilton Urology PA
Hamilton, New Jersey, United States
Lawrenceville Urology
Lawrenceville, New Jersey, United States
United States, New Mexico
Urology Group of New Mexico, PC
Albuquerque, New Mexico, United States
United States, New York
Capital Region Urological Surgeons and Research Associates
Albany, New York, United States
Medical and Clinical Research Associates, LLC
Bayshore, New York, United States
Hudson Valley Urology P.C.
Poughkeepsie, New York, United States
United States, North Carolina
Metrolina Urology Clinic
Charlotte, North Carolina, United States
Northeast Urology Research
Concord, North Carolina, United States
Duke University Medical Center
Durham, North Carolina, United States
Alliance Urology Specialists
Greensboro, North Carolina, United States
Coastal Urology, PLLC

Wilmington, North Carolina, United States
United States, Pennsylvania
Urologic Consultants of SEPA
Bala Cynwyd, Pennsylvania, United States
State College Urologic Association
State College, Pennsylvania, United States
United States, South Carolina
Grand Strand Urology
Myrtle Beach, South Carolina, United States
United States, Texas
Urology Clinics of North Texas, PA
Dallas, Texas, United States
Urology San Antonio Research
San Antonio, Texas, United States
United States, Virginia
Urology of Virginia
Norfolk, Virginia, United States
Virginia Urology Center
Richmond, Virginia, United States
Urology of Virginia
Virginia Beach, Virginia, United States
United States, Washington
Seattle Urology Research Center
Burien, Washington, United States
Roger D. Fincher, MD, PS
Spokane, Washington, United States
Belgium
Cliniques Universitaires Saint-Luc
Bruxelles, Belgium
UZ Antwerpen
Edegem, Belgium
UZ Gent
Gent, Belgium
AZ Groeninge - Campus Sint-Maarten
Kortrijk, Belgium
UZ Leuven
Leuven, Belgium
Canada
Notre Dame Hopital
Montreal, Canada
Canada, British Columbia
Southern Interior Medical Research Inc.
Kelowna, British Columbia, Canada
Dr. Cal Andreou Research
Surrey, British Columbia, Canada

Can-Med Clinical Research Inc.
Victoria, British Columbia, Canada
Dr Gary Steinhoff Clinical Research
Victoria, British Columbia, Canada
Canada, Ontario
Bramalea Medical Centre
Brampton, Ontario, Canada
Urology Associates / Urologic Medical Research
Kitchener, Ontario, Canada
Mor Urology, Inc.
Newmarket, Ontario, Canada
Ivestigational site
Scarborough, Ontario, Canada
Anthony Skehan Medicine Professionals Corporation
Thunder Bay, Ontario, Canada
The Male Health Center
Toronto, Ontario, Canada
Bloor West Professional Center
Toronto, Ontario, Canada
Sunnybrook Health Science Centre
Toronto, Ontario, Canada
The Health Institute for Men
Toronto, Ontario, Canada
Canada, Quebec
Uro Laval
Laval, Quebec, Canada
Czech Republic
Urocentrum Brno
Brno, Czech Republic
Nemocnice Jindrichuv Hradec, a.s.
Jindrichuv Hradec, Czech Republic
Kromerizska nemocnice a.s.
Kromeriz, Czech Republic
Slezska nemocnice
Opava, Czech Republic
Vseobecna fakultni nemocnice v Praze, Praha 2
Prague, Czech Republic
Fakultni nemocnice v Motole, Praha 5
Prague, Czech Republic
Fakultni Thomayerova nemocnice s poliklinikou, Praha 4
Prague, Czech Republic
Krajska nemocnice T. Bati a.s.
Zlin, Czech Republic
Finland
Pohjois-Karjalan keskussairaala

Joensuu, Finland
Päijät-Hämeen keskussairaala
Lahti, Finland
ODL Terveys Oy
Oulu, Finland
Pietarsaaren sairaala/ Malmin terveydenhuoltoalue
Pietarsaari, Finland
Terveystalo, Kirurgikeskus
Seinäjoki, Finland
Tampereen yliopistollinen sairaala
Tampere, Finland
Germany
Investigational site
Aachen, Germany
Investigational site
Kirchheim, Germany
Klinikum Mannheim Universitätsklinikum GmbH
Mannheim, Germany
Urologische Studienpraxis
Nürtingen, Germany
Universitätsklinikum Tübingen
Tübingen, Germany
Hungary
Fővárosi Önkormányzat uzsoki utcai Kórház
Budapest, Hungary
Fővárosi Önkormányzat Bajcsy-Zsilinszky Kórház
Budapest, Hungary
Semmelweis Egyetem
Budapest, Hungary
Dombóvári Szent Lukács Egészségügyi Kht.
Dombovar, Hungary
Miskolci Semmelweis Ignác Egészségügyi Központ és Egyetemi Oktató Kórház Nonprofit Kft
Miskolc, Hungary
Borsod-Abaúj-Zemplén Megyei Kórház és Egyetemi Oktató Kórház
Miskolc, Hungary
Pécsi Tudományegyetem
Pécs, Hungary
Szegedi Tudományegyetem Szent-Györgyi Albert Klinikai Központ
Szeged, Hungary
Jávorszky Ödön Kórház
Vác, Hungary
Mexico
Consultorio de Especialidad en Urologia Privado, Durango
Durango, Mexico
Centro Medico Dalinde

Mexico City, Mexico
Operadora MSB, S.A. de C.V. (Medica Sur CIF-BIOTEC)
Mexico City, Mexico
Hospital Angeles Lindavista
Mexico City, Mexico
Hospital y Clinica OCA, S.A. de C.V.
Monterrey N.L., Mexico
Hospital "Dr. Angel Leaño" (Universidad Autonoma de Guadalajara, A.C.)
Zapopan, Jalisco, Mexico
Consultorio Medico
Zapopan, Jalisco, Mexico
Hospital Christus Muguerza del Parque
Chihuahua, Chihuahua, Mexico
Hospital Aranda de la Parra , S.A. de C.V.
Leon, GTO, Mexico
Hospital Angeles Culiacan
Culiacan, Sinaloa, Mexico
Netherlands
AMC
Amsterdam, Netherlands
MC Haaglanden
Den Haag, Netherlands
HagaZiekenhuis
Den Haag, Netherlands
Catharina-ziekenhuis
Eindhoven, Netherlands
Atrium MC
Heerlen, Netherlands
Poland
SPZOZ Wojewodzki Szpital Zespolony im. J.Sniadeckiego
Bialystok, Poland
Centrum Medyczne Medur Sp. z o.o.
Bielsko-Biala, Poland
Samodzielny Publiczny Szpital Kliniczny Nr 1
Gdansk, Poland
Niepubliczny Zaklad Opieki Zdrowotnej Avimed Sp. z o.o.
Katowice, Poland
Gabinet Lekarski
Krakow, Poland
Wojewodzki Szpital Specjalistyczny w Siedlcach
Siedlce, Poland
Wojewodzki Szpital Specjalistyczny im. Janusza Korczaka w Slupsku
Slupsk, Poland
Szpital Kliniczny Dzieciatka Jezus - Centrum Leczenia Obrazen
Warszawa, Poland

Centrum Diagnostyki Medycznej MULTI-MED Hanna Brusikiewicz i Spolka - spolka jawna
Warszawa, Poland
Centrum Onkologii Instytut im. Marii Sklodowskiej-Curie
Warszawa, Poland
LexMedica
Wroclaw, Poland
Romania
Private Medical Center
Arad, Romania
Brasov Emergency Clinical County Hospital
Brasov, Romania
"Sfantul Ioan" Emergency Clinical Hospital
Bucharest, Romania
"Fundeni" Clinical Institute
Bucharest, Romania
Dinu Uromedica
Bucharest, Romania
Prof. Dr. Th. Burghele Clinical Urology Hospital
Bucharest, Romania
PROVITA 2000 Medical Center
Constanta, Romania
"Dr. C.I. Parhon" Clinical Hospital
Lasi, Romania
Vita Care Flav Medical Center
Pitesti, Romania
Emergency County Clinical Hospital Sibiu
Sibiu, Romania
Russian Federation
Russian State Medical University
Moscow, Russian Federation
Moscow State University of Medicine and Dentistry
Moscow, Russian Federation
City Clinical Hospital #60
Moscow, Russian Federation
"Clinic Andros" LLC
St. Petersburg, Russian Federation
City Hospital # 26
St. Petersburg, Russian Federation
St. Petersburg State Medical University n.a. I.P. Pavlov
St. Petersburg, Russian Federation
City Hospital #15
St. Petersburg, Russian Federation
"Orkli" LLC
St. Petersburg, Russian Federation
St.Petersburg Multi-Field City Hospital #2

St. Petersburg, Russian Federation
Regional Clinical Oncology Center
Vladimir, Russian Federation
Ukraine
Municipal Institution "Cherkasy Regional Oncology Dispensary"
Cherkassy, Ukraine
Dnipropetrovsk State Medical Academy
Dnipropetrovsk, Ukraine
Donetsk Regional Clinical Territorial Medical Association
Donetsk, Ukraine
Ivano-Frankivsk Regional Oncology Dispensary
Ivano-Frankivsk, Ukraine
Regional Clinical Center of Urology and Nephrology n.a. V.I.Shapoval
Kharkiv, Ukraine
Regional Municipal Institution "Kryvyy Rig Oncology Dispensary"
Kryvyi Rih, Ukraine
Kyiv City Clinical Hospital #3
Kyiv, Ukraine
State Institution "Urology Institute of Academy of Medical Sciences of Ukraine"
Kyiv, Ukraine
Odesa Regional Clinical Hospital
Odesa, Ukraine
Municipal Institution "Zaporizhzhia Regional Clinical Hospital"
Zaporizhzhya, Ukraine
United Kingdom
Castle Hill Hospital
Cottingham, United Kingdom
Ipswich Hospital
Ipswich, United Kingdom
Royal Liverpool University Hospital
Liverpool, United Kingdom
St Mary's Hospital
London, United Kingdom
Derriford Hospital
Plymouth, United Kingdom
The Royal Marsden NHS Foundation Trust
Sutton, United Kingdom

Investigators

Study Director:	Clinical Development Support	Ferring Pharmaceuticals

More Information

Responsible Party: Ferring Pharmaceuticals

Study ID Numbers:	FE200486 CS35 2008-005276-27 [EudraCT Number]
Health Authority:	United States: Food and Drug Administration Canada: Health Canada Mexico: Ministry of Health Belgium: Federal Agency for Medicines and Health Products, FAMHP Finland: Finnish Medicines Agency Germany: Ministry of Health Netherlands: Ministry of Health, Welfare and Sport United Kingdom: National Health Service Czech Republic: State Institute for Drug Control Hungary: National Institute of Pharmacy Poland: Ministry of Health Romania: National Medicines Agency Russia: Ministry of Health of the Russian Federation Ukraine: Ministry of Health

Study Results

Participant Flow

Recruitment Details	Subjects who met the eligibility criteria were randomized to degarelix or goserelin acetate treatment in a 2:1-ratio. 859 subjects were randomized but 11 subjects did not receive any treatment.

Reporting Groups

	Description
Degarelix 240 mg/480 mg	Degarelix: The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations).
Goserelin Acetate	Goserelin acetate: The goserelin doses were administered by subcutaneous (s.c.) implants into the abdominal wall. An initial dose of 3.6 mg goserelin was administered on Day 0. One month later a subsequent dose of 10.8 mg was administered and this was repeated after 4, 7, and 10 months (ie a total of 5 implants).

Overall Study

	Degarelix 240 mg/480 mg	Goserelin Acetate
Started	565 [1]	283 [2]
Full Analysis Set (FAS)	565 [3]	282 [4]

	Degarelix 240 mg/480 mg	Goserelin Acetate
Completed	455	239
Not Completed	110	44
Withdrawal by Subject	28	15
Lost to Follow-up	2	2
Physician Decision	5	2
Adverse Event	41	14
Protocol Violation	16	8
Miscellaneous reasons	18	3

[1] Received at least one dose of degarelix.
[2] Received at least one dose of goserelin acetate.
[3] Received at least one dose of degarelix and had at least one post-dosing efficacy assessment.
[4] Received at least one dose of goserelin and had at least one post-dosing efficacy assessment.

Baseline Characteristics

Analysis Population Description
FAS

Reporting Groups

	Description
Degarelix 240 mg/480 mg	Degarelix: The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations).
Goserelin Acetate	Goserelin acetate: The goserelin doses were administered by subcutaneous (s.c.) implants into the abdominal wall. An initial dose of 3.6 mg goserelin was administered on Day 0. One month later a subsequent dose of 10.8 mg was administered and this was repeated after 4, 7, and 10 months (ie a total of 5 implants).

Baseline Measures

	Degarelix 240 mg/480 mg	Goserelin Acetate	Total
Number of Participants	565	282	847
Age, Continuous [units: years] Mean (Standard Deviation)	71.9 (8.3)	71.1 (7.9)	71.6 (8.2)

	Degarelix 240 mg/480 mg	Goserelin Acetate	Total
Gender, Male/Female [units: participants]			
Female	0	0	0
Male	565	282	847
Race (NIH/OMB) [units: participants]			
American Indian or Alaska Native	45	25	70
Asian	4	1	5
Native Hawaiian or Other Pacific Islander	0	1	1
Black or African American	41	16	57
White	475	239	714
More than one race	0	0	0
Unknown or Not Reported	0	0	0
Median Baseline Serum Testosterone Levels (ng/mL) [units: ng/mL] Median (Full Range)	4.52 (0.56 to 14.5)	4.62 (0.07 to 13.2)	4.54 (0.07 to 14.5)
Median Baseline Serum Prostate-specific Antigen Levels (ng/mL) [units: ng/mL] Median (Full Range)	19.0 (0.26 to 8762)	19.1 (0.01 to 12961)	19.0 (0.01 to 12961)
Baseline Short Form-36 (SF-36) Total Scores [1] [units: units on a scale] Mean (Standard Deviation)	49.7 (11.5)	50.2 (11.4)	49.9 (11.4)
Baseline Total International Prostate Symptom Scores (IPSS) [2] [units: units on a scale] Mean (Standard Deviation)	11.8 (7.93)	11.6 (8.02)	11.7 (7.96)

[1] The SF-36 is a multi-purpose, short-form health survey with only 36 questions and with a minimum score of 0 and a maximum score of 100. The higher score the better health. It yields an 8-scale profile of functional health and well-being scores as well as

psychometrically-based physical and mental health summary measures and a preference-based health utility index. The SF-36 has proven useful in surveys of general and specific populations, comparing the relative burden of diseases, and in differentiating the health benefits produced by a wide range of different treatments.

[2] IPSS is used to assess severity of lower urinary tract symptoms and to monitor the progress of symptoms once treatment has been initiated. It contains 7 questions regarding incomplete emptying, frequency, intermittency, urgency, weak stream, straining, and nocturia. Each question is assigned a score of 0-5 (i.e. the minimum total score is 0 and the maximum is 35). A score of “0” corresponds to a response of “not at all” for the first six symptoms and “none” for nocturia, and a score of 5 corresponds to a response of “almost always” for the first six symptoms and “5 times or more” for nocturia.

Outcome Measures

1. Primary Outcome Measure:

Measure Title	Cumulative Probability of Testosterone at Castrate Level (≤0.5 ng/mL) With Degarelix
Measure Description	This co-primary outcome measure was used to demonstrate that degarelix is effective with respect to achieving and maintaining testosterone suppression to castrate levels, evaluated as the proportion of patients with testosterone suppression ≤0.5 ng/mL from Day 28 to Day 364.
Time Frame	From Day 28 to Day 364
Safety Issue?	No

Analysis Population Description
FAS.

Reporting Groups

	Description
Degarelix 240 mg/480 mg	Degarelix: The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations).

Measured Values

	Degarelix 240 mg/480 mg
Number of Participants Analyzed	565
Cumulative Probability of Testosterone at Castrate Level (≤0.5 ng/mL) With Degarelix [units: percentage of participants] Number (95% Confidence Interval)	90.0 (87.0 to 92.3)

2. Primary Outcome Measure:

Measure Title	Difference in Cumulative Probability of Testosterone at Castrate Level (≤0.5 ng/mL) Between Degarelix and Goserelin
Measure Description	This co-primary outcome measure was used to establish non-inferiority of degarelix as compared to goserelin with regard to achieving and maintaining testosterone suppression at castrate levels (≤0.5 ng/mL) from Day 3 to Day 364, using a non-inferiority margin of 5 percentage points.
Time Frame	Day 3 to Day 364
Safety Issue?	No

Analysis Population Description
FAS.

Reporting Groups

	Description
Degarelix 240 mg/480 mg	Degarelix: The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations).
Goserelin Acetate	Goserelin acetate: The goserelin doses were administered by subcutaneous (s.c.) implants into the abdominal wall. An initial dose of 3.6 mg goserelin was administered on Day 0. One month later a subsequent dose of 10.8 mg was administered and this was repeated after 4, 7, and 10 months (ie a total of 5 implants).

Measured Values

	Degarelix 240 mg/480 mg	Goserelin Acetate
Number of Participants Analyzed	565	282
Difference in Cumulative Probability of Testosterone at Castrate Level (≤0.5 ng/mL) Between Degarelix and Goserelin [units: percentage of participants] Number (95% Confidence Interval)	85.0 (81.6 to 87.8)	5.3 (3.1 to 8.4)

Statistical Analysis 1 for Difference in Cumulative Probability of Testosterone at Castrate Level (≤0.5 ng/mL) Between Degarelix and Goserelin

Statistical Analysis Overview	Comparison Groups	Degarelix 240 mg/480 mg, Goserelin Acetate
	Comments	The cumulative probability of testosterone ≤0.5 ng/mL from Day 3 to Day 364 was estimated by the Kaplan-Meier method. Only testosterone measurements taken at scheduled trial visits from Day 3 to Day 364 were included in the analysis. The hypothesis to test was the following: a non-inferiority assessment determined whether degarelix was non-inferior to goserelin with respect to the cumulative probability of testosterone ≤0.5 ng/mL from Day 3 to Day 364.

	Non-Inferiority or Equivalence Analysis?	Yes
	Comments	The non-inferiority limit for the difference between treatments (degarelix versus goserelin acetate) was chosen to be -5 percentage points.

Method of Estimation	Estimation Parameter	Other [Kaplan-Meier estimate]
	Estimated Value	79.6
	Confidence Interval	(2-Sided) 95% 75.6 to 83.7
	Estimation Comments	[Not specified]

3. Secondary Outcome Measure:

Measure Title	Serum Levels of Testosterone Over Time
Measure Description	Median testosterone levels are presented as absolute values at Baseline (in Baseline measures) and after 1, 2, 3, 6 and 13 months (below). One treatment month equals 28 days.
Time Frame	Baseline and after 1, 2, 3, 6 and 13 months
Safety Issue?	No

Analysis Population Description
FAS.

Reporting Groups

	Description
Degarelix 240 mg/480 mg	Degarelix: The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations).
Goserelin Acetate	Goserelin acetate: The goserelin doses were administered by subcutaneous (s.c.) implants into the abdominal wall. An initial dose of 3.6 mg goserelin was administered on Day 0. One month later a subsequent dose of 10.8 mg was administered and this was repeated after 4, 7, and 10 months (ie a total of 5 implants).

Measured Values

	Degarelix 240 mg/480 mg	Goserelin Acetate
Number of Participants Analyzed	565	282
Serum Levels of Testosterone Over Time [units: ng/mL] Median (Full Range)		

	Degarelix 240 mg/480 mg	Goserelin Acetate
Month 1	0.10 (0.015 to 3.85)	0.16 (0.04 to 1.77)
Month 2	0.09 (0.015 to 0.41)	0.10 (0.015 to 0.5)
Month 3	0.09 (0.015 to 3.24)	0.09 (0.015 to 5.4)
Month 6	0.09 (0.015 to 1.57)	0.09 (0.015 to 0.32)
Month 13	0.11 (0.015 to 4.19)	0.09 (0.015 to 0.95)

4. Secondary Outcome Measure:

Measure Title	Percent Change in Serum Levels of Prostate-specific Antigen (PSA) Over Time
Measure Description	Serum PSA levels are presented as mean percent change from Baseline (in Baseline measures) after 1, 2, 3, 6 and 13 months. One treatment month equals 28 days.
Time Frame	Baseline and after 1, 2, 3, 6 and 13 months
Safety Issue?	No

Analysis Population Description
FAS.

Reporting Groups

	Description
Degarelix 240 mg/480 mg	Degarelix: The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations).
Goserelin Acetate	Goserelin acetate: The goserelin doses were administered by subcutaneous (s.c.) implants into the abdominal wall. An initial dose of 3.6 mg goserelin was administered on Day 0. One month later a subsequent dose of 10.8 mg was administered and this was repeated after 4, 7, and 10 months (ie a total of 5 implants).

Measured Values

	Degarelix 240 mg/480 mg	Goserelin Acetate
Number of Participants Analyzed	565	282
Percent Change in Serum Levels of Prostate-specific Antigen (PSA) Over Time [units: percent change] Mean (Standard Deviation)		

	Degarelix 240 mg/480 mg	Goserelin Acetate
Month 1	-77 (23.7)	-57 (45.7)
Month 2	-89 (12.6)	-86 (18.1)
Month 3	-90 (15.4)	-86 (58.6)
Month 6	-90 (30.5)	-91 (18.2)
Month 13	-82 (104)	-77 (146)

5. Secondary Outcome Measure:

Measure Title	Change in Health-related Quality of Life (HRQoL), as Measured by Short Form-36 (SF-36) Score at Month 10 and Month 13 Compared to Baseline
Measure Description	The SF-36 is a multi-purpose, short-form health survey with only 36 questions and with a minimum score of 0 and a maximum score of 100. The higher score the better health. It yields an 8-scale profile of functional health and well-being scores as well as psychometrically-based physical and mental health summary measures and a preference-based health utility index. The SF-36 has proven useful in surveys of general and specific populations, comparing the relative burden of diseases, and in differentiating the health benefits produced by a wide range of different treatments.
Time Frame	At baseline, 10 months and 13 months
Safety Issue?	No

Analysis Population Description
FAS.

Reporting Groups

	Description
Degarelix 240 mg/480 mg	Degarelix: The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations).
Goserelin Acetate	Goserelin acetate: The goserelin doses were administered by subcutaneous (s.c.) implants into the abdominal wall. An initial dose of 3.6 mg goserelin was administered on Day 0. One month later a subsequent dose of 10.8 mg was administered and this was repeated after 4, 7, and 10 months (ie a total of 5 implants).

Measured Values

	Degarelix 240 mg/480 mg	Goserelin Acetate
Number of Participants Analyzed	565	282

	Degarelix 240 mg/480 mg	Goserelin Acetate
Change in Health-related Quality of Life (HRQoL), as Measured by Short Form-36 (SF-36) Score at Month 10 and Month 13 Compared to Baseline [units: units on a scale] Mean (Standard Deviation)		
Month 10	0.52 (11.1)	0.27 (10.6)
Month 13	0.18 (10.9)	-0.87 (9.76)

6. Secondary Outcome Measure:

Measure Title	Change in International Prostate Symptom Score (IPSS) Score at Months 1, 4, 7, and 13 Compared to Baseline
Measure Description	IPSS is used to assess severity of lower urinary tract symptoms and to monitor the progress of symptoms once treatment has been initiated. It contains 7 questions regarding incomplete emptying, frequency, intermittency, urgency, weak stream, straining, and nocturia. Each question is assigned a score of 0-5 (i.e. the minimum total score is 0 and the maximum is 35). A score of "0" corresponds to a response of "not at all" for the first six symptoms and "none" for nocturia, and a score of 5 corresponds to a response of "almost always" for the first six symptoms and "5 times or more" for nocturia.
Time Frame	At baseline, 1 month, 4 months, 7 months and 13 months
Safety Issue?	No

Analysis Population Description
FAS.

Reporting Groups

	Description
Degarelix 240 mg/480 mg	Degarelix: The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations).
Goserelin Acetate	Goserelin acetate: The goserelin doses were administered by subcutaneous (s.c.) implants into the abdominal wall. An initial dose of 3.6 mg goserelin was administered on Day 0. One month later a subsequent dose of 10.8 mg was administered and this was repeated after 4, 7, and 10 months (ie a total of 5 implants).

Measured Values

	Degarelix 240 mg/480 mg	Goserelin Acetate
Number of Participants Analyzed	565	282

	Degarelix 240 mg/480 mg	Goserelin Acetate
Change in International Prostate Symptom Score (IPSS) Score at Months 1, 4, 7, and 13 Compared to Baseline [units: units on a scale] Mean (Standard Deviation)		
Month 1	-1.06 (6.27)	-0.21 (6.22)
Month 4	-2.31 (6.65)	-1.74 (6.16)
Month 7	-2.47 (6.94)	-2.45 (6.80)
Month 13	-2.04 (7.28)	-1.52 (6.25)

Reported Adverse Events

Time Frame	Adverse events were recorded from signed informed consent until the end-of-trial visit, Day 364 (Month 13).
Additional Description	Adverse events were evaluated at each visit.

Reporting Groups

	Description
Degarelix 240 mg/480 mg	Degarelix: The degarelix doses were administered by subcutaneous (s.c.) injections into the abdominal wall. A starting dose of 240 mg degarelix was administered on Day 0. One month later a maintenance dose of 480 mg was administered. This was repeated after 4, 7, and 10 months (ie a total of 5 administrations).
Goserelin Acetate	Goserelin acetate: The goserelin doses were administered by subcutaneous (s.c.) implants into the abdominal wall. An initial dose of 3.6 mg goserelin was administered on Day 0. One month later a subsequent dose of 10.8 mg was administered and this was repeated after 4, 7, and 10 months (ie a total of 5 implants).

Serious Adverse Events

	Degarelix 240 mg/480 mg		Goserelin Acetate	
	Affected/At Risk (%)	# Events	Affected/At Risk (%)	# Events
Total	58/565 (10.27%)		33/283 (11.66%)	
Blood and lymphatic system disorders				
Anaemia [A] †	2/565 (0.35%)		2/283 (0.71%)	

	Degarelix 240 mg/480 mg		Goserelin Acetate	
	Affected/At Risk (%)	# Events	Affected/At Risk (%)	# Events
Haemorrhagic anaemia [A] †	1/565 (0.18%)		0/283 (0%)	
Cardiac disorders				
Acute myocardial infarction [A] †	1/565 (0.18%)		1/283 (0.35%)	
Angina pectoris [A] †	2/565 (0.35%)		0/283 (0%)	
Angina unstable [A] †	0/565 (0%)		1/283 (0.35%)	
Atrial fibrillation [A] †	1/565 (0.18%)		1/283 (0.35%)	
Cardiac arrest [A] †	1/565 (0.18%)		0/283 (0%)	
Cardiac failure acute [A] †	2/565 (0.35%)		0/283 (0%)	
Cardiopulmonary failure [A] †	1/565 (0.18%)		0/283 (0%)	
Coronary artery disease [A] †	2/565 (0.35%)		0/283 (0%)	
Myocardial infarction [A] †	1/565 (0.18%)		1/283 (0.35%)	
Supraventricular tachycardia [A] †	0/565 (0%)		2/283 (0.71%)	
Congenital, familial and genetic disorders				
Phimosis [A] †	0/565 (0%)		1/283 (0.35%)	
Eye disorders				
Cataract [A] †	1/565 (0.18%)		0/283 (0%)	
Eye pain [A] †	0/565 (0%)		1/283 (0.35%)	
Gastrointestinal disorders				
Abdominal hernia [A] †	1/565 (0.18%)		0/283 (0%)	
Dyspepsia [A] †	0/565 (0%)		1/283 (0.35%)	
Enterocolitis haemorrhagic [A] †	0/565 (0%)		1/283 (0.35%)	
Gastric ulcer haemorrhage [A] †	1/565 (0.18%)		0/283 (0%)	
Gastrointestinal haemorrhage [A] †	2/565 (0.35%)		0/283 (0%)	

	Degarelix 240 mg/480 mg		Goserelin Acetate	
	Affected/At Risk (%)	# Events	Affected/At Risk (%)	# Events
Inguinal hernia [A] †	2/565 (0.35%)		1/283 (0.35%)	
Intestinal obstruction [A] †	2/565 (0.35%)		0/283 (0%)	
Pancreatitis [A] †	1/565 (0.18%)		0/283 (0%)	
Pancreatitis acute [A] †	0/565 (0%)		1/283 (0.35%)	
Rectal haemorrhage [A] †	0/565 (0%)		1/283 (0.35%)	
General disorders				
Death [A] †	0/565 (0%)		1/283 (0.35%)	
Non-cardiac chest pain [A] †	1/565 (0.18%)		0/283 (0%)	
Oedema peripheral [A] †	1/565 (0.18%)		0/283 (0%)	
Pyrexia [A] †	0/565 (0%)		1/283 (0.35%)	
Sudden cardiac death [A] †	0/565 (0%)		1/283 (0.35%)	
Sudden death [A] †	1/565 (0.18%)		0/283 (0%)	
Hepatobiliary disorders				
Cholecystitis [A] †	1/565 (0.18%)		0/283 (0%)	
Infections and infestations				
Cellulitis [A] †	1/565 (0.18%)		0/283 (0%)	
Gastroenteritis [A] †	1/565 (0.18%)		0/283 (0%)	
Infective exacerbation of chronic obstructive airways [A] †	1/565 (0.18%)		0/283 (0%)	
Injection site abscess [A] †	1/565 (0.18%)		0/283 (0%)	
Lobar pneumonia [A] †	1/565 (0.18%)		2/283 (0.71%)	
Lung abscess [A] †	0/565 (0%)		1/283 (0.35%)	
Pneumonia [A] †	0/565 (0%)		2/283 (0.71%)	

	Degarelix 240 mg/480 mg		Goserelin Acetate	
	Affected/At Risk (%)	# Events	Affected/At Risk (%)	# Events
Pyelonephritis acute [A] †	1/565 (0.18%)		0/283 (0%)	
Pyothorax [A] †	1/565 (0.18%)		0/283 (0%)	
Sepsis [A] †	1/565 (0.18%)		1/283 (0.35%)	
Staphylococcal bacteraemia [A] †	1/565 (0.18%)		0/283 (0%)	
Staphylococcal infection [A] †	1/565 (0.18%)		0/283 (0%)	
Urinary tract infection [A] †	1/565 (0.18%)		0/283 (0%)	
Injury, poisoning and procedural complications				
Coronary artery reocclusion [A] †	0/565 (0%)		1/283 (0.35%)	
Dislocation of joint prosthesis [A] †	1/565 (0.18%)		0/283 (0%)	
Humerus fracture [A] †	1/565 (0.18%)		0/283 (0%)	
Metabolism and nutrition disorders				
Cachexia [A] †	0/565 (0%)		1/283 (0.35%)	
Dehydration [A] †	2/565 (0.35%)		0/283 (0%)	
Insulin-requiring type 2 diabetes mellitus [A] †	0/565 (0%)		1/283 (0.35%)	
Type 2 diabetes mellitus [A] †	1/565 (0.18%)		0/283 (0%)	
Musculoskeletal and connective tissue disorders				
Back pain [A] †	1/565 (0.18%)		0/283 (0%)	
Intervertebral disc protrusion [A] †	1/565 (0.18%)		0/283 (0%)	
Lumbar spinal stenosis [A] †	0/565 (0%)		1/283 (0.35%)	
Muscular weakness [A] †	1/565 (0.18%)		0/283 (0%)	
Pathological fracture [A] †	0/565 (0%)		1/283 (0.35%)	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)				
Chronic myelomonocytic leukaemia [A] †	1/565 (0.18%)		0/283 (0%)	

	Degarelix 240 mg/480 mg		Goserelin Acetate	
	Affected/At Risk (%)	# Events	Affected/At Risk (%)	# Events
Colon cancer [A] †	0/565 (0%)		2/283 (0.71%)	
Gastric cancer [A] †	1/565 (0.18%)		0/283 (0%)	
Intestinal adenocarcinoma [A] †	1/565 (0.18%)		0/283 (0%)	
Laryngeal cancer [A] †	1/565 (0.18%)		0/283 (0%)	
Lung neoplasm [A] †	1/565 (0.18%)		0/283 (0%)	
Metastases to central nervous system [A] †	1/565 (0.18%)		0/283 (0%)	
Metastases to liver [A] †	1/565 (0.18%)		0/283 (0%)	
Metastases to lung [A] †	2/565 (0.35%)		0/283 (0%)	
Metastatic carcinoma of the bladder [A] †	0/565 (0%)		1/283 (0.35%)	
Pancreatic neoplasm [A] †	0/565 (0%)		1/283 (0.35%)	
Prostate cancer [A] †	1/565 (0.18%)		0/283 (0%)	
Renal cancer [A] †	1/565 (0.18%)		0/283 (0%)	
Renal cancer metastatic [A] †	1/565 (0.18%)		0/283 (0%)	
Small cell lung cancer metastatic [A] †	1/565 (0.18%)		0/283 (0%)	
Small cell lung cancer stage unspecified [A] †	2/565 (0.35%)		0/283 (0%)	
Squamous cell carcinoma of skin [A] †	1/565 (0.18%)		0/283 (0%)	
Thyroid cancer [A] †	1/565 (0.18%)		0/283 (0%)	
Tumour local invasion [A] †	1/565 (0.18%)		0/283 (0%)	
Nervous system disorders				
Carotid artery stenosis [A] †	1/565 (0.18%)		0/283 (0%)	
Cerebrovascular accident [A] †	1/565 (0.18%)		0/283 (0%)	
Encephalopathy [A] †	0/565 (0%)		1/283 (0.35%)	

	Degarelix 240 mg/480 mg		Goserelin Acetate	
	Affected/At Risk (%)	# Events	Affected/At Risk (%)	# Events
Haemorrhagic stroke [A] †	0/565 (0%)		1/283 (0.35%)	
Ischaemic stroke [A] †	3/565 (0.53%)		1/283 (0.35%)	
Parkinson's disease [A] †	1/565 (0.18%)		0/283 (0%)	
Syncope [A] †	3/565 (0.53%)		0/283 (0%)	
Transient ischaemic attack [A] †	1/565 (0.18%)		0/283 (0%)	
Psychiatric disorders				
Delirium [A] †	0/565 (0%)		1/283 (0.35%)	
Renal and urinary disorders				
Acute prerenal failure [A] †	1/565 (0.18%)		0/283 (0%)	
Calculus bladder [A] †	0/565 (0%)		1/283 (0.35%)	
Haematuria [A] †	1/565 (0.18%)		1/283 (0.35%)	
Renal failure [A] †	1/565 (0.18%)		0/283 (0%)	
Renal failure acute [A] †	0/565 (0%)		1/283 (0.35%)	
Renal failure chronic [A] †	0/565 (0%)		1/283 (0.35%)	
Urinary retention [A] †	1/565 (0.18%)		1/283 (0.35%)	
Urinary tract obstruction [A] †	1/565 (0.18%)		0/283 (0%)	
Respiratory, thoracic and mediastinal disorders				
Chronic obstructive pulmonary disease [A] †	2/565 (0.35%)		2/283 (0.71%)	
Haemoptysis [A] †	1/565 (0.18%)		1/283 (0.35%)	
Lung disorder [A] †	1/565 (0.18%)		0/283 (0%)	
Pleural effusion [A] †	1/565 (0.18%)		0/283 (0%)	
Pleurisy [A] †	1/565 (0.18%)		0/283 (0%)	

	Degarelix 240 mg/480 mg		Goserelin Acetate	
	Affected/At Risk (%)	# Events	Affected/At Risk (%)	# Events
Pulmonary embolism [A] †	3/565 (0.53%)		3/283 (1.06%)	
Respiratory failure [A] †	0/565 (0%)		1/283 (0.35%)	
Vascular disorders				
Deep vein thrombosis [A] †	1/565 (0.18%)		0/283 (0%)	
Hypertension [A] †	1/565 (0.18%)		0/283 (0%)	
Peripheral embolism [A] †	1/565 (0.18%)		1/283 (0.35%)	
Peripheral ischaemia [A] †	1/565 (0.18%)		0/283 (0%)	

† Indicates events were collected by systematic assessment.
A Term from vocabulary, MedDRA 13.0

Other Adverse Events

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

	Degarelix 240 mg/480 mg		Goserelin Acetate	
	Affected/At Risk (%)	# Events	Affected/At Risk (%)	# Events
Total	336/565 (59.47%)		125/283 (44.17%)	
General disorders				
Fatigue [A] †	26/565 (4.6%)	28	15/283 (5.3%)	15
Injection site erythema [A] †	122/565 (21.59%)	323	0/283 (0%)	0
Injection site nodule [A] †	51/565 (9.03%)	112	0/283 (0%)	0
Injection site pain [A] †	173/565 (30.62%)	429	4/283 (1.41%)	4
Injection site swelling [A] †	34/565 (6.02%)	102	0/283 (0%)	0
Pyrexia [A] †	31/565 (5.49%)	40	7/283 (2.47%)	7
Infections and infestations				
Urinary tract infection [A] †	24/565 (4.25%)	30	18/283 (6.36%)	24
Investigations				

	Degarelix 240 mg/480 mg		Goserelin Acetate	
	Affected/At Risk (%)	# Events	Affected/At Risk (%)	# Events
Weight increased [A] †	26/565 (4.6%)	26	24/283 (8.48%)	24
Musculoskeletal and connective tissue disorders				
Back pain [A] †	19/565 (3.36%)	21	21/283 (7.42%)	27
Vascular disorders				
Hot flush [A] †	160/565 (28.32%)	175	76/283 (26.86%)	80
Hypertension [A] †	22/565 (3.89%)	24	18/283 (6.36%)	21

† Indicates events were collected by systematic assessment.
A Term from vocabulary, MedDRA 13.0

Limitations and Caveats

[Not specified]

More Information

Certain Agreements:

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

There IS 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.

The only disclosure restriction on the PI is that the sponsor can review the draft manuscript prior to publication and can request delay of publication where any contents are deemed patentable by the sponsor or confidential to the sponsor. Comments will be given within four weeks from receipt of the draft manuscript. Additional time may be required to allow Ferring to seek patent protection of the invention.

Results Point of Contact:

Name/Official Title: Clinical Development Support
Organization: Ferring Pharmaceuticals
Phone:
Email: DK0-Disclosure@ferring.com