

ClinicalTrials.gov Protocol and Results Registration System (PRS) Receipt  
Release Date: 01/20/2014

ClinicalTrials.gov ID: NCT01173471

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### Study Identification

Unique Protocol ID: D4250C00001

Brief Title: A Phase IIa Study to Assess the Tolerability, Safety, and Efficacy of AZD4017 for Raised Intra-ocular Pressure

Official Title: A Double Masked, Placebo Controlled, Randomised, Parallel Group Phase IIa Study to Assess the Tolerability, Safety, and Efficacy of AZD4017 for Raised Intra-Ocular Pressure

Secondary IDs: 2010-020932-20 [EudraCT Number]

### Study Status

Record Verification: January 2014

Overall Status: Completed

Study Start: December 2010

Primary Completion: November 2012 [Actual]

Study Completion: November 2012 [Actual]

### Sponsor/Collaborators

Sponsor: AstraZeneca

Responsible Party: Sponsor

Collaborators:

### Oversight

FDA Regulated?: No

IND/IDE Protocol?: No

Review Board: Approval Status: Approved

Approval Number: 10/H0402/57

Board Name: Leicestershire, Northamptonshire and Rutland Research Ethics Committee 2

Board Affiliation: Leicestershire, Northamptonshire and Rutland Research Ethics Committee 2

Phone: 0115 8839 428

Email: Susie.Cornick-Willis@nottspct.nhs.uk

Data Monitoring?: No

Plan to Share Data?:

Oversight Authorities: United Kingdom: Medicines and Healthcare Products Regulatory Agency

United Kingdom: Research Ethics Committee

## Study Description

Brief Summary: The purpose of this study is to evaluate the efficacy of systemically administered AZD4017, compared with placebo, over a 28-day period in patients with raised intra-ocular pressure (IOP).

Detailed Description:

## Conditions

Conditions: Raised Intraocular Pressure

Keywords: Raised intraocular pressure

## Study Design

Study Type: Interventional

Primary Purpose: Basic Science

Study Phase: Phase 2

Intervention Model: Parallel Assignment

Number of Arms: 4

Masking: Double Blind (Subject, Investigator)

Allocation: Randomized

Endpoint Classification: Safety/Efficacy Study

Enrollment: 50 [Actual]

## Arms and Interventions

Arms	Assigned Interventions
Experimental: 1) AZD4017 Europe: 200 mg AZD4017	Drug: AZD4017 tablet, oral, one tablet once daily, 28 days
Placebo Comparator: 2) Placebo Europe: placebo	Drug: Placebo matching placebo tablet, oral, one tablet once daily, 28 days
Experimental: 3) AZD4017 USA: 800 mg AZD4017	Drug: AZD4017 tablet, oral 2 tablets twice daily, 28 days
Placebo Comparator: 4) Placebo USA: placebo	Drug: Placebo matching placebo tablets, oral, 2 tablets twice daily, 28 days

## Outcome Measures

[See Results Section.]

## Eligibility

Minimum Age: 18 Years

Maximum Age: 80 Years

Gender: Both

Accepts Healthy Volunteers?: No

Criteria: Inclusion Criteria:

- Must have a diagnosis of intra-ocular hypertension (raised IOP), or primary open-angle glaucoma (POAG), with IOP >20 mmHg and ≤36 mmHg in the study eye, and is currently prescribed a stable dose of a single anti-glaucoma medication that began at least 30 days prior to the screening visit; OR
- Must have a diagnosis of intra-ocular hypertension (raised IOP), defined as an IOP ≥22 mmHg and ≤36 mmHg in the study eye while not on anti-glaucoma medication
- Male patients must be willing to use barrier contraception with spermicide, ie, condoms, from the day of first dosing until 3 months after dosing with IP
- Placebo treatment for duration of the study must not be considered detrimental to the patient

Exclusion Criteria:

- Have uncontrolled intra-ocular hypertension (>36 mmHg)
- Have experienced a significant visual field loss or showed evidence of progressive visual field loss within the last year (as defined by >1 dB/yr average loss or vision threatening new defect)
- Have had severe eye trauma at any time

## Contacts/Locations

Study Officials: Heather Bryson, PhD  
Study Director  
AstraZeneca R&D

Tony Ho, MD  
Study Director  
AstraZeneca R&D

### Locations: Sweden

Research Site  
Lund, Sweden

Research Site  
Molndal, Sweden

Research Site  
Stockholm, Sweden

United Kingdom  
Research Site  
Nottingham, United Kingdom

United States, California  
Research Site  
Newport Beach, California, United States

United States, Georgia  
Research Site  
Atlanta, Georgia, United States

Research Site  
Morrow, Georgia, United States

United States, Kansas  
Research Site  
Overland Park, Kansas, United States

United States, North Carolina  
Research Site  
Charlotte, North Carolina, United States

Research Site  
Durham, North Carolina, United States

## References

Citations:

Links:

Study Data/Documents:

## Study Results

### Participant Flow

Recruitment Details	This multicenter study was conducted in 19 centers in the US, UK, and Sweden between 13 December 2010 and 06 November 2012. A total of 117 patients were screened in the study and of these, 50 were randomized into the double-blind treatment period.
Pre-Assignment Details	Diagnosis of intra-ocular hypertension (raised IOP), or POAG, with IOP >20 mmHg and ≤36 mmHg, and currently prescribed a stable dose of one anti-glaucoma medication that began at least 30 days prior to the screening visit or a diagnosis of intra-ocular hypertension, defined as an IOP >22 mmHg and ≤36 mmHg while not on anti-glaucoma medication.

### Reporting Groups

	Description
Placebo OD	Placebo once daily
AZD4017 200 mg OD	AZD4017 200 mg once daily
Placebo BID	Placebo twice daily
AZD4017 400 mg BID	AZD4017 400 mg twice daily

### Overall Study

	Placebo OD	AZD4017 200 mg OD	Placebo BID	AZD4017 400 mg BID
Started	6 <sup>[1]</sup>	7 <sup>[1]</sup>	18 <sup>[1]</sup>	19 <sup>[1]</sup>

	Placebo OD	AZD4017 200 mg OD	Placebo BID	AZD4017 400 mg BID
Received Treatment	6	7	18	19
Completed Treatment	4	7	15	18
Completed	4 <sup>[2]</sup>	7 <sup>[2]</sup>	15 <sup>[2]</sup>	18 <sup>[2]</sup>
Not Completed	2	0	3	1
Eligibility criteria not fulfilled	0	0	1	1
Condition under investigation worsened	2	0	0	0
Lost to Follow-up	0	0	1	0
Reason given as Other	0	0	1	0

[1] Randomized

[2] Completed study



## Baseline Characteristics

### Reporting Groups

	Description
Placebo OD	Placebo once daily
AZD4017 200 mg OD	AZD4017 200 mg once daily
Placebo BID	Placebo twice daily
AZD4017 400 mg BID	AZD4017 400 mg twice daily

### Baseline Measures

	Placebo OD	AZD4017 200 mg OD	Placebo BID	AZD4017 400 mg BID	Total
Number of Participants	6	7	18	19	50
Age, Continuous [units: Years] Mean (Standard Deviation)	63 (6.7)	63 (8.7)	57 (15.1)	65 (10.1)	61 (11.9)
Age, Customized [units: Participants]					
<50 years	0	1	5	2	8

	Placebo OD	AZD4017 200 mg OD	Placebo BID	AZD4017 400 mg BID	Total
>=50-<65 years	3	4	6	5	18
>=65 years	3	2	7	12	24
Gender, Male/Female [units: Participants]					
Female	2	3	9	11	25
Male	4	4	9	8	25
Race/Ethnicity, Customized [units: Participants]					
American Indian or Alaska Native	0	0	0	0	0
Asian	0	0	1	0	1
Native Hawaiian or Other Pacific Islander	0	0	0	0	0
Black or African American	0	0	5	5	10
White	6	7	12	14	39
Other	0	0	0	0	0
Missing	0	0	0	0	0
Region of Enrollment [units: Participants]					
United Kingdom	2	4	0	0	6
Sweden	4	3	0	0	7
United States	0	0	18	19	37
Stratification factor [units: Participants]					
Add-on to intra-ocular pressure medication	0	1	8	9	18
Not on intra-ocular pressure medication	6	6	10	10	32

## Outcome Measures

### 1. Primary Outcome Measure:

Measure Title	Percentage Change in Mean Intra-ocular Pressure Compared With Baseline After 4 Weeks Treatment
Measure Description	
Time Frame	Baseline to 4 weeks
Safety Issue?	No

Analysis Population Description  
Efficacy analysis set

### Reporting Groups

	Description
Placebo OD	Placebo once daily
AZD4017 200 mg OD	AZD4017 200 mg once daily
Placebo BID	Placebo twice daily
AZD4017 400 mg BID	AZD4017 400 mg twice daily

### Measured Values

	Placebo OD	AZD4017 200 mg OD	Placebo BID	AZD4017 400 mg BID
Number of Participants Analyzed	6	7	16	19
Percentage Change in Mean Intra-ocular Pressure Compared With Baseline After 4 Weeks Treatment [units: Percentage change] Least Squares Mean (95% Confidence Interval)	0.8 (-15.6 to 17.3)	-0.4 (-13.8 to 13.0)	-8.1 (-13.3 to -2.9)	-11.0 (-15.8 to -6.2)

### Statistical Analysis 1 for Percentage Change in Mean Intra-ocular Pressure Compared With Baseline After 4 Weeks Treatment

Statistical Analysis Overview	Comparison Groups	Placebo OD, AZD4017 200 mg OD
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]



Statistical Test of Hypothesis	P-Value	0.822
	Comments	[Not specified]
	Method	Mixed Models Analysis
	Comments	[Not specified]
Method of Estimation	Estimation Parameter	Mean Difference (Final Values)
	Estimated Value	-1.3
	Confidence Interval	(2-Sided) 95% -15.2 to 12.6
	Parameter Dispersion	Type: Standard Error of the mean Value: 5.352
	Estimation Comments	Difference is (AZD4017 200 mg OD - Placebo OD)

Statistical Analysis 2 for Percentage Change in Mean Intra-ocular Pressure Compared With Baseline After 4 Weeks Treatment

Statistical Analysis Overview	Comparison Groups	Placebo BID, AZD4017 400 mg BID
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.413
	Comments	[Not specified]
	Method	Mixed Models Analysis
	Comments	[Not specified]
Method of Estimation	Estimation Parameter	Mean Difference (Final Values)
	Estimated Value	-2.9
	Confidence Interval	(2-Sided) 95% -10.1 to 4.3
	Parameter Dispersion	Type: Standard Error of the mean Value: 3.516
	Estimation Comments	Difference is (AZD4017 400 mg BID - Placebo BID)

## 2. Secondary Outcome Measure:

Measure Title	Clinically Relevant Change in Intra-ocular Pressure After 4 Weeks of Treatment
Measure Description	
Time Frame	Baseline to 4 weeks
Safety Issue?	No

Analysis Population Description  
Efficacy analysis set

## Reporting Groups

	Description
Placebo OD	Placebo once daily
AZD4017 200 mg OD	AZD4017 200 mg once daily
Placebo BID	Placebo twice daily
AZD4017 400 mg BID	AZD4017 400 mg twice daily

## Measured Values

	Placebo OD	AZD4017 200 mg OD	Placebo BID	AZD4017 400 mg BID
Number of Participants Analyzed	6	7	18	19
Clinically Relevant Change in Intra-ocular Pressure After 4 Weeks of Treatment [units: Participants]				
>= 20% decrease in intra-ocular pressure	0	0	1	4
>= 30% decrease in intra-ocular pressure	0	0	0	0

## 3. Secondary Outcome Measure:

Measure Title	Change in Mean Intra-ocular Pressure Compared With Baseline After 4 Weeks Treatment
Measure Description	
Time Frame	Baseline to 4 weeks
Safety Issue?	No

Analysis Population Description  
Efficacy analysis set

Reporting Groups

	Description
Placebo OD	Placebo once daily
AZD4017 200 mg OD	AZD4017 200 mg once daily
Placebo BID	Placebo twice daily
AZD4017 400 mg BID	AZD4017 400 mg twice daily

Measured Values

	Placebo OD	AZD4017 200 mg OD	Placebo BID	AZD4017 400 mg BID
Number of Participants Analyzed	6	7	16	19
Change in Mean Intra-ocular Pressure Compared With Baseline After 4 Weeks Treatment [units: mmHg] Least Squares Mean (95% Confidence Interval)	0.1 (-4.8 to 4.9)	-0.4 (-4.4 to 3.5)	-1.9 (-3.3 to -0.6)	-2.6 (-3.8 to -1.3)

Statistical Analysis 1 for Change in Mean Intra-ocular Pressure Compared With Baseline After 4 Weeks Treatment

Statistical Analysis Overview	Comparison Groups	Placebo OD, AZD4017 200 mg OD
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]
Statistical Test of Hypothesis	P-Value	0.758
	Comments	[Not specified]
	Method	Mixed Models Analysis
	Comments	[Not specified]
Method of Estimation	Estimation Parameter	Mean Difference (Final Values)
	Estimated Value	-0.5
	Confidence Interval	(2-Sided) 95%

		-4.8 to 3.7
	Parameter Dispersion	Type: Standard Error of the mean Value: 1.570
	Estimation Comments	Difference is (AZD4017 200 mg OD - Placebo OD)

#### Statistical Analysis 2 for Change in Mean Intra-ocular Pressure Compared With Baseline After 4 Weeks Treatment

Statistical Analysis Overview	Comparison Groups	Placebo BID, AZD4017 400 mg BID
	Comments	[Not specified]
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]

Statistical Test of Hypothesis	P-Value	0.467
	Comments	[Not specified]
	Method	Mixed Models Analysis
	Comments	[Not specified]

Method of Estimation	Estimation Parameter	Mean Difference (Final Values)
	Estimated Value	-0.7
	Confidence Interval	(2-Sided) 95% -2.5 to 1.2
	Parameter Dispersion	Type: Standard Error of the mean Value: 0.909
	Estimation Comments	Difference is (AZD4017 400 mg BID - Placebo BID)

## Reported Adverse Events

Time Frame	4-week treatment period.
Additional Description	All patients were required to return for a mandatory follow-up visit (Visit 8) between 14 and 21 days, inclusive, after the last dose of study medication. Any ongoing adverse events (AEs) at the follow-up visit were followed until resolution, until the AE stabilized, until it was otherwise explained, or until the patient was lost to follow-up.

# Reporting Groups

	Description
Placebo OD	Placebo once daily
AZD4017 200 mg OD	AZD4017 200 mg once daily
Placebo BID	Placebo twice daily
AZD4017 400 mg BID	AZD4017 400 mg twice daily

## Serious Adverse Events

	Placebo OD		AZD4017 200 mg OD		Placebo BID		AZD4017 400 mg BID	
	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events
Total	0/6 (0%)		0/7 (0%)		0/18 (0%)		0/19 (0%)	

## Other Adverse Events

Frequency Threshold Above Which Other Adverse Events are Reported: 1%

	Placebo OD		AZD4017 200 mg OD		Placebo BID		AZD4017 400 mg BID	
	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events
Total	5/6 (83.33%)		3/7 (42.86%)		5/18 (27.78%)		7/19 (36.84%)	
Eye disorders								
BLEPHARITIS <sup>A</sup> †	1/6 (16.67%)	1	0/7 (0%)	0	0/18 (0%)	0	0/19 (0%)	0
CONJUNCTIVAL HAEMORRHAGE <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	0/18 (0%)	0	1/19 (5.26%)	1
CONJUNCTIVAL HYPERAEMIA <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	0/18 (0%)	0	1/19 (5.26%)	1
DELLEN <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	1/18 (5.56%)	1	0/19 (0%)	0
DRY EYE <sup>A</sup> †	1/6 (16.67%)	1	0/7 (0%)	0	0/18 (0%)	0	0/19 (0%)	0

	Placebo OD		AZD4017 200 mg OD		Placebo BID		AZD4017 400 mg BID	
	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events
EYE PAIN <sup>A</sup> †	0/6 (0%)	0	1/7 (14.29%)	1	0/18 (0%)	0	0/19 (0%)	0
PHOTOPHOBIA <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	0/18 (0%)	0	1/19 (5.26%)	1
VITREOUS DETACHMENT <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	1/18 (5.56%)	1	0/19 (0%)	0
Gastrointestinal disorders								
ABDOMINAL PAIN <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	1/18 (5.56%)	1	1/19 (5.26%)	1
DRY MOUTH <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	1/18 (5.56%)	1	0/19 (0%)	0
DYSPEPSIA <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	0/18 (0%)	0	1/19 (5.26%)	1
LIP PRURITUS <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	1/18 (5.56%)	1	0/19 (0%)	0
VOMITING <sup>A</sup> †	0/6 (0%)	0	2/7 (28.57%)	2	0/18 (0%)	0	0/19 (0%)	0
General disorders								
FATIGUE <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	1/18 (5.56%)	1	1/19 (5.26%)	1
Infections and infestations								
ASYMPTOMATIC BACTERIURIA <sup>A</sup> †	0/6 (0%)	0	1/7 (14.29%)	1	0/18 (0%)	0	0/19 (0%)	0
CONJUNCTIVITIS INFECTIVE <sup>A</sup> †	1/6 (16.67%)	1	0/7 (0%)	0	0/18 (0%)	0	0/19 (0%)	0
GASTROINTESTINAL INFECTION <sup>A</sup> †	0/6 (0%)	0	1/7 (14.29%)	1	0/18 (0%)	0	0/19 (0%)	0
INFECTED BITES <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	0/18 (0%)	0	1/19 (5.26%)	1

	Placebo OD		AZD4017 200 mg OD		Placebo BID		AZD4017 400 mg BID	
	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events
NASOPHARYNGITIS <sup>A</sup> †	1/6 (16.67%)	1	0/7 (0%)	0	0/18 (0%)	0	0/19 (0%)	0
URINARY TRACT INFECTION <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	1/18 (5.56%)	1	0/19 (0%)	0
Injury, poisoning and procedural complications								
JOINT INJURY <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	0/18 (0%)	0	1/19 (5.26%)	1
Investigations								
INTRAOCULAR PRESSURE INCREASED <sup>A</sup> †	2/6 (33.33%)	2	0/7 (0%)	0	0/18 (0%)	0	0/19 (0%)	0
Musculoskeletal and connective tissue disorders								
SENSATION OF HEAVINESS <sup>A</sup> †	0/6 (0%)	0	1/7 (14.29%)	1	0/18 (0%)	0	0/19 (0%)	0
Nervous system disorders								
BALANCE DISORDER <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	0/18 (0%)	0	1/19 (5.26%)	1
HEADACHE <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	0/18 (0%)	0	1/19 (5.26%)	1
PARAESTHESIA <sup>A</sup> †	0/6 (0%)	0	1/7 (14.29%)	1	0/18 (0%)	0	0/19 (0%)	0
PRESYNCOPE <sup>A</sup> †	0/6 (0%)	0	1/7 (14.29%)	1	0/18 (0%)	0	0/19 (0%)	0
Renal and urinary disorders								
POLAKIURIA <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	0/18 (0%)	0	1/19 (5.26%)	1
Respiratory, thoracic and mediastinal disorders								
THROAT IRRITATION <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	1/18 (5.56%)	1	0/19 (0%)	0
Vascular disorders								

	Placebo OD		AZD4017 200 mg OD		Placebo BID		AZD4017 400 mg BID	
	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events	Affected/ At Risk (%)	# Events
FLUSHING <sup>A</sup> †	0/6 (0%)	0	0/7 (0%)	0	1/18 (5.56%)	1	0/19 (0%)	0

† Indicates events were collected by systematic assessment.

A Term from vocabulary, MedDRA Version 15.1

## ► 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 Sponsor recognises that the Trust and Investigator have a responsibility under the Research Governance Framework for Health and Social Care to ensure that results of scientific interest arising from the Clinical Trial are appropriately published and disseminated. Such data will be submitted to the Sponsor for review and comment prior to publication. The Trust agrees, and shall ensure that the Investigator agrees, that all reasonable comments made by the Sponsor will be incorporated.

### Results Point of Contact:

Name/Official Title: Stuart McIntosh

Organization: AstraZeneca

Phone:

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