Clinical trial results:
Allogenic stem cell transplantation with CD3/CD19 depleted stem cells from haploidentical related and non-related donators in pediatric patients with and without malignant systemic diseases.

Summary

EudraCT number	2006-000393-76
Trial protocol	DE
Global end of trial date	18 August 2017

Results information

Result version number	v1 (current)
This version publication date	16 December 2021
First version publication date	16 December 2021
Summary attachment (see zip file)	ZKI-SCT-HAPLO-0106_Report Synopsis of Study (ZKI-SCT-HAPLO-0106_Report Synopsis of Study.pdf)

Trial information

Trial identification

Sponsor protocol code	ZKI-SCT-HAPLO-0106

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	-
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Johann Wolfgang Goethe Universität
Sponsor organisation address	Senckenberganlage 31, Frankfurt am Main, Germany,
Public contact	Division for stem cell transplantat, University hospital frankfurt, Department for children and adolescents, ++49 696301-7542, peter.bader@kgu.de
Scientific contact	Division for stem cell transplantat, University hospital frankfurt, Department for children and adolescents, ++49 696301-7542, peter.bader@kgu.de

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	15 August 2018
Is this the analysis of the primary completion data?	Yes
Primary completion date	18 August 2017
Global end of trial reached?	Yes
Global end of trial date	18 August 2017
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

Evaluation of the engraftment rate after preparation of the stem cell transplant with CD3/CD19 depletion and administration of approximatelly 7x10E6/kg body weight CD34+ cells. Engraftment is defined as leucocytes >1000µl, neutrophiles >500µl and thrombocytes >20.000/µl on day 28 after transplantation.

Protection of trial subjects:

All patients were investigated daily by physicians and nurses and if necessary appropriate treatment was initiated.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	05 December 2006
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	Germany: 67
Worldwide total number of subjects	67
EEA total number of subjects	67

Notes:

Subjects enrolled per age group

In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	7
Children (2-11 years)	27
Adolescents (12-17 years)	23
Adults (18-64 years)	10
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

Patients with an indication for allogeneic transplantation were screened and patients fullfilling inclusion criteria and not being scope of exclusion criteria were included.

Period 1

Period 1 title	Baseline
Is this the baseline period?	Yes
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	OKT-3

Arm description:

All patients receiving the monoclonal antibody Orthoclone-3.

Arm type	Subgroup
Investigational medicinal product name	Orthoclone OKT3®
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for suspension for injection
Routes of administration	Intravenous bolus use

Dosage and administration details:

The initial recommended dose is 2.5 mg per day in pediatric patients weighing less than or equal to 30 kg and 5 mg per day in pediatric patients weighing greater than 30 kg in a single (bolus) intravenous injection in less than one minute for 10 to 14 days.

Arm title	ATG Fresenius

Arm description:

All patients receiving the polyclonal amtibody ATG Fresenius.

Arm type	Subgroup

No investigational medicinal product assigned in this arm

Arm title	Campath

Arm description:

All patients receiving the monoclonal antibody CAMPATH

Arm type	Subgroup

No investigational medicinal product assigned in this arm

Number of subjects in period 1	OKT-3	ATG Fresenius	Campath
Started	51	11	5
Completed	51	11	5

Period 2

Period 2 title	Intervention
Is this the baseline period?	No
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	OKT-3

Arm description: -

Arm type	Subgroup
Investigational medicinal product name	Orthoclone OKT3®
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for suspension for injection
Routes of administration	Intravenous bolus use

Dosage and administration details:

The initial recommended dose is 2.5 mg per day in pediatric patients weighing less than or equal to 30 kg and 5 mg per day in pediatric patients weighing greater than 30 kg in a single (bolus) intravenous injection in less than one minute for 10 to 14 days.

Arm title	ATG Fresenius

Arm description:

All patients receiving the polyclonal antobody ATG Fresenius.

Arm type	Subgroup
Investigational medicinal product name	ATG-Fresenius S 20 mg/ml Konzentrat
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Concentrate and solvent for concentrate for solution for infusion
Routes of administration	Intravenous drip use

Dosage and administration details:

Prävention einer akuten Transplantatabstoßung bei Empfängern allogener Organtransplantate Der empfohlene Dosisbereich beträgt 2 bis 5 mg/kg KG/Tag ATG-Fresenius S. Am häufigsten werden Dosierungen zwischen 3 und 4 mg/kg KG/Tag eingesetzt. Mit der Therapie ist am Transplantationstag prä-, intra- oder unmittelbar postoperativ zu beginnen. In Abhängigkeit vom Zustand des Patienten, der gewählten

Tagesdosis und der gleichzeitig eingesetzten weiteren Immunsuppressiva liegt die empfohlene Dauer der Anwendung zwischen 5 und 14 Tagen.

Behandlung einer akuten steroidresistenten Abstoßung nach allogener Organtransplantation Der empfohlene Dosisbereich beträgt 3 bis 5 mg/kg KG/Tag ATG-Fresenius S. Am häufigsten werden Dosierungen zwischen 3 und 4 mg/kg KG/Tag eingesetzt. Die Dauer der Anwendung richtet sich nach dem Zustand des transplantierten Organs und dem klinischen Ansprechen und liegt in der Regel zwischen 5 und 14 Tagen.

Prävention der Graft-versus-Host-Erkrankung (GVHD) bei Stamm

Arm title	Campath

Arm description: -

Arm type	Subgroup

No investigational medicinal product assigned in this arm

Number of subjects in period 2	OKT-3	ATG Fresenius	Campath
Started	51	11	5
Completed	30	3	1
Not completed	21	8	4
Adverse event, serious fatal	20	7	4
Lost to follow-up	1	1	-

Baseline characteristics

Reporting groups	
Reporting group title	OKT-3
Reporting group description:	
All patients receiving the monoclonal antibody Orthoclone-3.	
Reporting group title	ATG Fresenius
Reporting group description:	
All patients receiving the polyclonal amtibody ATG Fresenius.	
Reporting group title	Campath
Reporting group description:	
All patients receiving the monoclonal antibody CAMPATH	

Reporting group values	OKT-3	ATG Fresenius	Campath
Number of subjects	51	11	5
Age categorical Units: Subjects			
In utero			
Preterm newborn infants (gestational age < 37 wks)			
Newborns (0-27 days)			
Infants and toddlers (28 days-23 months)			
Children (2-11 years)			
Adolescents (12-17 years)			
Adults (18-64 years)			
From 65-84 years			
85 years and over			
Age continuous Units: years			
arithmetic mean	12.1	6.2	18.6
standard deviation	± 6.6	± 4.0	± 4.0
Gender categorical Units: Subjects			
Female	30	7	3
Male	21	4	2
Basic disease Units: Subjects			
ALL, AML or CML	27	4	5
Solid Tumor	12	3	0
Other	12	4	0
Disease status at transplantation Units: Subjects			
CR	27	6	5
no CR	24	5	0
Number of previous transplantations Units: Subjects			
No transplantation	27	6	1
One transplantation	20	4	4

Twor ore more transplantations	2	1	0
Not applicable	2	0	0
Gender of donor Units: Subjects			
male	27	5	0
female	24	6	5
Relationship to recipient Units: Subjects			
Not related	9	2	0
Monozygous Twin	0	0	0
Sybling	11	0	0
Parent	31	9	5
Age of donor Units: years			
arithmetic mean	35.0	39.4	36.6
standard deviation	± 9.3	± 7.1	± 6.4

Reporting group values	Total		
Number of subjects	67		
Age categorical Units: Subjects			
In utero	0		
Preterm newborn infants (gestational age < 37 wks)	0		
Newborns (0-27 days)	0		
Infants and toddlers (28 days-23 months)	0		
Children (2-11 years)	0		
Adolescents (12-17 years)	0		
Adults (18-64 years)	0		
From 65-84 years	0		
85 years and over	0		
Age continuous Units: years			
arithmetic mean			
standard deviation	-		
Gender categorical Units: Subjects			
Female	40		
Male	27		
Basic disease Units: Subjects			
ALL, AML or CML	36		
Solid Tumor	15		
Other	16		
Disease status at transplantation Units: Subjects			
CR	38		
no CR	29		
Number of previous transplantations Units: Subjects			
No transplantation	34		

One transplantation	28		
Twor ore more transplantations	3		
Not applicable	2		
Gender of donor Units: Subjects			
male	32		
female	35		
Relationship to recipient Units: Subjects			
Not related	11		
Monozygous Twin	0		
Sybling	11		
Parent	45		
Age of donor Units: years			
arithmetic mean			
standard deviation	-		

Subject analysis sets

Subject analysis set title	ITT
Subject analysis set type	Intention-to-treat
Subject analysis set description: All enrolled Patients who received stem cell transplantation.	
Subject analysis set title	OKT-3 Subgroup related donor
Subject analysis set type	Sub-group analysis
Subject analysis set description: Patients of the OKT-3 group who received a transplant from a related donor	
Subject analysis set title	OKT-3 Subgroup unrelated donor
Subject analysis set type	Sub-group analysis
Subject analysis set description: Patients of the OKT-3 group who received a tranplant from an unrelated donor	
Subject analysis set title	OKT-3 Subgroup ALL/AML/CML
Subject analysis set type	Sub-group analysis
Subject analysis set description: Patients of the OKT-3 group who had ALL/AML or CML as underlying disease	
Subject analysis set title	OKT-3 Subgroup Solid Tumor
Subject analysis set type	Sub-group analysis
Subject analysis set description: Patients of the OKT-3 group who had a solid tumor as underlying disease	
Subject analysis set title	OKT-3 Subgroup other underlying disease
Subject analysis set type	Sub-group analysis
Subject analysis set description: Patients of the OKT-3 group with other than ALL/AML/CML or solid tumor as underlying disease.	

Reporting group values	ITT	OKT-3 Subgroup related donor	OKT-3 Subgroup unrelated donor
Number of subjects	67	42	9
Age categorical Units: Subjects			
In utero			

Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			
Age continuous Units: years			
arithmetic mean	10,9		
standard deviation	±	±	±
Gender categorical Units: Subjects			
Female	40		
Male	27		
Basic disease Units: Subjects			
ALL, AML or CML	36		
Solid Tumor	15		
Other	16		
Disease status at transplantation Units: Subjects			
CR	38		
no CR	29		
Number of previous transplantations Units: Subjects			
No transplantation	34		
One transplantation	28		
Twor ore more transplantations	3		
Not applicable	2		
Gender of donor Units: Subjects			
male	32		
female	35		
Relationship to recipient Units: Subjects			
Not related	11		
Monozygous Twin	0		
Sybling	11		
Parent	45		
Age of donor Units: years			
arithmetic mean	35.8		
standard deviation	± 8.9	±	±

Reporting group values	OKT-3 Subgroup ALL/AML/CML	OKT-3 Subgroup Solid Tumor	OKT-3 Subgroup other underlying disease
Number of subjects	27	12	12

Age categorical Units: Subjects			
In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over			
Age continuous Units: years arithmetic mean standard deviation	±	±	±
Gender categorical Units: Subjects			
Female Male			
Basic disease Units: Subjects			
ALL, AML or CML Solid Tumor Other			
Disease status at transplantation Units: Subjects			
CR no CR			
Number of previous transplantations Units: Subjects			
No transplantation One transplantation Twor ore more transplantations Not applicable			
Gender of donor Units: Subjects			
male female			
Relationship to recipient Units: Subjects			
Not related Monozygous Twin Sybling Parent			
Age of donor Units: years arithmetic mean standard deviation	±	±	±

End points

End points reporting groups

Reporting group title	OKT-3
Reporting group description:	
All patients receiving the monoclonal antibody Orthoclone-3.	
Reporting group title	ATG Fresenius
Reporting group description:	
All patients receiving the polyclonal amtibody ATG Fresenius.	
Reporting group title	Campath
Reporting group description:	
All patients receiving the monoclonal antibody CAMPATH	
Reporting group title	OKT-3
Reporting group description: -	
Reporting group title	ATG Fresenius
Reporting group description:	
All patients receiving the polyclonal antobody ATG Fresenius.	
Reporting group title	Campath
Reporting group description: -	
Subject analysis set title	ITT
Subject analysis set type	Intention-to-treat
Subject analysis set description:	
All enrolled Patients who received stem cell transplantation.	
Subject analysis set title	OKT-3 Subgroup related donor
Subject analysis set type	Sub-group analysis
Subject analysis set description:	
Patients of the OKT-3 group who received a transplant from a related donor	
Subject analysis set title	OKT-3 Subgroup unrelated donor
Subject analysis set type	Sub-group analysis
Subject analysis set description:	
Patients of the OKT-3 group who received a tranplant from an unrelated donor	
Subject analysis set title	OKT-3 Subgroup ALL/AML/CML
Subject analysis set type	Sub-group analysis
Subject analysis set description:	
Patients of the OKT-3 group who had ALL/AML or CML as underlying disease	
Subject analysis set title	OKT-3 Subgroup Solid Tumor
Subject analysis set type	Sub-group analysis
Subject analysis set description:	
Patients of the OKT-3 group who had a solid tumor as underlying disease	
Subject analysis set title	OKT-3 Subgroup other underlying disease
Subject analysis set type	Sub-group analysis
Subject analysis set description:	
Patients of the OKT-3 group with other than ALL/AML/CML or solid tumor as underlying disease.	

Primary: Engraftmentrate

End point title	Engraftmentrate[1]
End point description:	
Engraftmentrate 28 days after transplantation. Engraftment is defined as - lymphocyte status > 1000/µl, - neutrophil status > 500/µl and	

-thrombocyte status > 20000ml

End point type	Primary

End point timeframe:

28 days after transplantation

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: This was a single arm open study, for which no confirmatory or exploratory tests were planned. It was intended to increase the engraftment rate with this new therapy compared to the standard therapy (engraftment=85%) at time of study planning. The different subgroups presented in the analyses here were analysed separately due to the possible impacts of the different conditioning antibodies which had to be used after OKT-3 was taken off the market.

End point values	OKT-3	ATG Fresenius	Campath	ITT
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	51
Units: Number of patients	41	6	4	51

Statistical analyses

No statistical analyses for this end point

Secondary: Leukocyte status

End point title	Leukocyte status

End point description:

Leukocyte count is part of the primary endpoint "engraftment".

End point type	Secondary

End point timeframe:

28 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	ITT
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	67
Units: Number of patients				
Leukocyte count > 1000/µL	51	10	5	66
Leukocyte count < 1000/µL	0	1	0	1

Statistical analyses

No statistical analyses for this end point

Secondary: Neutrophil status

End point title	Neutrophil status

End point description:

The Neutrophil status is part of the primary endpoint "engraftment".

End point type	Secondary

End point timeframe:

28 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	ITT
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	67
Units: Number of patients				
Neutrophil count >500/µL	51	10	5	66
Neutrophil count <500/µL	0	1	0	1

Statistical analyses

No statistical analyses for this end point

Secondary: Thrombocyte status

End point title	Thrombocyte status

End point description:

Thrombocyte status is part of the primary endpoint "engraftment".

End point type	Secondary

End point timeframe:

28 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	ITT
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	67
Units: Number of patients				
Thrmobocyte count > 20000/µL	48	8	4	60
Thrombocyte count < 20000/µL	3	3	1	7

Statistical analyses

No statistical analyses for this end point

Secondary: Transplant failure

End point title	Transplant failure

End point description:

End point type	Secondary

End point timeframe:
28 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	ITT
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	67
Units: Number of patients				
Yes	5	3	0	8
No	46	8	5	59

Statistical analyses

No statistical analyses for this end point

Secondary: Type of transplant failure

End point title	Type of transplant failure

End point description:

End point type	Secondary

End point timeframe:
28 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	ITT
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	67
Units: Number of patients				
Non-engraftment	0	1	0	1
Rejection	5	2	0	7

Statistical analyses

No statistical analyses for this end point

Secondary: Time to primary engraftment

End point title	Time to primary engraftment

End point description:

Engraftment as defined for primary endpoint:
Lymphocyte count > 1000/µL
Neutrophil count > 500/µL and
Thrombocyte count > 20000µL

In case median and/ or confindece intervals could not be computed, “999" was used.

End point type	Secondary

End point timeframe:

Median time to primary engraftment within first 28 days after transplantation.

End point values	OKT-3	ATG Fresenius	Campath	OKT-3 Subgroup related donor
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	42
Units: Days				
median (confidence interval 95%)	17.0 (16.0 to 19.0)	22.0 (15.0 to 999)	13.0 (12.0 to 999)	17 (16 to 19)

End point values	OKT-3 Subgroup unrelated donor			
Subject group type	Subject analysis set			
Number of subjects analysed	9			
Units: Days				
median (confidence interval 95%)	17 (12 to 24)			

Statistical analyses

No statistical analyses for this end point

Secondary: Toxicities

End point title	Toxicities

End point description:

Number of patients with at least 1 toxicity with 365 days after transplantation.

End point type	Secondary

End point timeframe:

Within 365 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	51	11	5	
Units: Number of patients				
At least 1 toxicity	51	11	5	
No toxicity	0	0	0	

Statistical analyses

No statistical analyses for this end point

Secondary: Number of toxicities per patient

End point title	Number of toxicities per patient

End point description:

Number of toxicities per patient within 365 days after transplantation.

End point type	Secondary

End point timeframe:

Within 365 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	51	11	5	
Units: Number				
median (full range (min-max))	21.0 (11 to 44)	19.0 (10 to 44)	19.0 (10 to 38)	

Statistical analyses

No statistical analyses for this end point

Secondary: Acute graft-versus-host reaction

End point title	Acute graft-versus-host reaction

End point description:

End point type	Secondary

End point timeframe:

Within 365 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	51	11	5	
Units: Number of patients				
Yes	34	4	2	
No	17	7	3	

Statistical analyses

No statistical analyses for this end point

Secondary: Chronic graft-versus-host reaction

End point title	Chronic graft-versus-host reaction

End point description:

End point type	Secondary

End point timeframe:

Within 365 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	51	11	5	
Units: Number of patients				
Yes	3	0	0	
No	48	11	5	

Statistical analyses

No statistical analyses for this end point

Secondary: Reasons for tranplantation-related mortality

End point title	Reasons for tranplantation-related mortality

End point description:

Multiple answers possible

End point type	Secondary

End point timeframe:

Wihin 365 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	51	11	5	
Units: Number of Patients				
Graft-versus-host reaction	2	1	0	
Pulmonal toxicity	0	1	0	
Infection	4	4	2	
Other	3	2	2	

Statistical analyses

No statistical analyses for this end point

Secondary: Transplantion-related mortality

End point title	Transplantion-related mortality

End point description:

End point type	Secondary

End point timeframe:

Within 365 days after transplantation

End point values	OKT-3	ATG Fresenius	Campath	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	51	11	5	
Units: Number of patients				
Yes	6	6	3	
No	45	5	2	

Statistical analyses

No statistical analyses for this end point

Secondary: Duration of remission

End point title	Duration of remission

End point description:

In case median and/ or confindece intervals could not be computed, "999" was used.

End point type	Secondary

End point timeframe:

Time from remssion to recurrence or death, whatever comes first

End point values	OKT-3	ATG Fresenius	Campath	OKT-3 Subgroup ALL/AML/CML
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	27
Units: days				
median (confidence interval 95%)	999 (999 to 999)	169 (50 to 199)	999 (999 to 999)	999 (188 to 999)

End point values	OKT-3 Subgroup Solid Tumor	OKT-3 Subgroup other underlying disease		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	12	12		
Units: days				
median (confidence interval 95%)	291 (61 to 999)	999 (999 to 999)		

Statistical analyses

No statistical analyses for this end point

Secondary: Mortality

End point title	Mortality

End point description:

End point type	Secondary

End point timeframe:

Within study

End point values	OKT-3	ATG Fresenius	Campath	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	51	11	5	
Units: Number of patients				
Yes	20	7	4	
No	31	4	1	

Statistical analyses

No statistical analyses for this end point

Secondary: Survival time

End point title	Survival time

End point description:

Time to death, censored at drop-out or end of study.

In case median and/ or confidence intervals coul not be computed, the code "999" is used.

End point type	Secondary

End point timeframe:

Within study

End point values	OKT-3	ATG Fresenius	Campath	OKT-3 Subgroup related donor
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	42
Units: days				
median (confidence interval 95%)	999 (231 to 999)	999 (53 to 999)	999 (46 to 999)	999 (221 to 999)

End point values	OKT-3 Subgroup unrelated donor	OKT-3 Subgroup ALL/AML/CML	OKT-3 Subgroup Solid Tumor	OKT-3 Subgroup other underlying disease
Subject group type	Subject analysis set	Subject analysis set	Subject analysis set	Subject analysis set
Number of subjects analysed	9	27	12	12
Units: days				
median (confidence interval 95%)	999 (257 to 999)	999 (155 to 999)	999 (186 to 999)	999 (257 to 999)

Statistical analyses

No statistical analyses for this end point

Secondary: Event-free survival

End point title	Event-free survival

End point description:

Censored at end of study or drop-out

In case median and/ or confindece intervals could not be computed, "999" was used.

End point type	Secondary

End point timeframe:

Time to transplant failure, relapse or death, whatever comes first

End point values	OKT-3	ATG Fresenius	Campath	OKT-3 Subgroup ALL/AML/CML
Subject group type	Reporting group	Reporting group	Reporting group	Subject analysis set
Number of subjects analysed	51	11	5	27
Units: days				
median (confidence interval 95%)	999 (155 to 999)	53 (24 to 153)	124 (46 to 999)	999 (96 to 999)

End point values	OKT-3 Subgroup Solid Tumor	OKT-3 Subgroup other underlying disease		
Subject group type	Subject analysis set	Subject analysis set		
Number of subjects analysed	12	12		
Units: days				
median (confidence interval 95%)	218.5 (33 to 999)	999 (97 to 999)		

Statistical analyses

No statistical analyses for this end point

Secondary: Disease-free survival

End point title	Disease-free survival

End point description:

Censored at end of study or lost-to follow-up

In case median and/ or confindece intervals could not be computed, “999" was used.

End point type	Secondary

End point timeframe:

Time to relapse or death, whatever comes first

End point values	OKT-3	ATG Fresenius	Campath	
Subject group type	Reporting group	Reporting group	Reporting group	
Number of subjects analysed	51	11	5	
Units: days				
median (confidence interval 95%)	999 (188 to 999)	153 (50 to 218)	124 (46 to 999)	

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information	
Timeframe for reporting adverse events: From transplantation to end of study.	
Assessment type	Systematic

Dictionary used	
Dictionary name	MedDRA
Dictionary version	21.0

Reporting groups	
Reporting group title	OKT-3
Reporting group description: Patients who received the monoclonal antibody Orthoclone-3 (OKT-3).	
Reporting group title	ATG Fresenius
Reporting group description: Patients receiving the polyclonal antibody ATG Fresenius	
Reporting group title	CAMPATH
Reporting group description: Patients who received the monoclonal antibody CAMPATH.	
Reporting group title	Total
Reporting group description: All patients treated in the study	

Serious adverse events	OKT-3	ATG Fresenius	CAMPATH
Total subjects affected by serious adverse events			
subjects affected / exposed	30 / 51 (58.82%)	7 / 11 (63.64%)	4 / 5 (80.00%)
number of deaths (all causes)	20	7	4
number of deaths resulting from adverse events	1	0	0
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Acute myeloid leukaemia recurrent			
subjects affected / exposed	3 / 51 (5.88%)	0 / 11 (0.00%)	1 / 5 (20.00%)
occurrences causally related to treatment / all	0 / 3	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
B-cell lymphoma			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Hepatoblastoma recurrent			

subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Neoplasm progression			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Recurrent cancer			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Vascular disorders			
Capillary leak syndrome			
subjects affected / exposed	0 / 51 (0.00%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Venoocclusive disease			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
General disorders and administration site conditions			
Pyrexia			
subjects affected / exposed	4 / 51 (7.84%)	3 / 11 (27.27%)	1 / 5 (20.00%)
occurrences causally related to treatment / all	0 / 5	0 / 4	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
General physical health deterioration			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Multiple organ dysfunction syndrome			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Oedema peripheral			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Systemic inflammatory response syndrome			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	1 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Immune system disorders			
Graft versus host disease in gastrointestinal tract			
subjects affected / exposed	0 / 51 (0.00%)	1 / 11 (9.09%)	1 / 5 (20.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Graft versus host disease in skin			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Respiratory, thoracic and mediastinal disorders			
Dyspnoea			
subjects affected / exposed	1 / 51 (1.96%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Respiratory failure			
subjects affected / exposed	1 / 51 (1.96%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cough			
subjects affected / exposed	0 / 51 (0.00%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pleural effusion			

subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pulmonary embolism			
subjects affected / exposed	0 / 51 (0.00%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Investigations			
Adenovirus test positive			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Polyomavirus test positive			
subjects affected / exposed	1 / 51 (1.96%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Aspergillus test positive			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Blood urine			
subjects affected / exposed	0 / 51 (0.00%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Injury, poisoning and procedural complications			
Transplant failure			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cardiac disorders			
Cardiac arrest			
subjects affected / exposed	0 / 51 (0.00%)	0 / 11 (0.00%)	1 / 5 (20.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Cardiac tamponade			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nervous system disorders			
Aphasia			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Encephalopathy			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Epilepsy			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Paraplegia			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Partial seizures			
subjects affected / exposed	0 / 51 (0.00%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Sciatica			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Blood and lymphatic system disorders			
Bone marrow failure			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Lymphopenia			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
Diarrhoea			
subjects affected / exposed	1 / 51 (1.96%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Vomiting			
subjects affected / exposed	1 / 51 (1.96%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Abdominal pain upper			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastritis			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal haemorrhage			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Mechanical ileus			
subjects affected / exposed	0 / 51 (0.00%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Oesophageal haemorrhage			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Renal and urinary disorders			

Renal failure			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 3	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Chronic kidney disease			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cystitis haemorrhagic			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	1 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
Cytomegalovirus infection			
subjects affected / exposed	2 / 51 (3.92%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 2	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Epstein-Barr virus infection			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Herpes zoster			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Pneumonia			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 2	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Adenovirus infection			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Bacterial sepsis			

subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Cystitis			
subjects affected / exposed	0 / 51 (0.00%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Device related infection			
subjects affected / exposed	0 / 51 (0.00%)	0 / 11 (0.00%)	1 / 5 (20.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Device related sepsis			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastroenteritis rotavirus			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infection			
subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Localised infection			
subjects affected / exposed	0 / 51 (0.00%)	0 / 11 (0.00%)	1 / 5 (20.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
lung infection			
subjects affected / exposed	0 / 51 (0.00%)	0 / 11 (0.00%)	1 / 5 (20.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Viral sepsis			

subjects affected / exposed	1 / 51 (1.96%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 1	0 / 0	0 / 0

Serious adverse events	Total		
Total subjects affected by serious adverse events			
subjects affected / exposed	41 / 67 (61.19%)		
number of deaths (all causes)	31		
number of deaths resulting from adverse events	1		
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Acute myeloid leukaemia recurrent			
subjects affected / exposed	4 / 67 (5.97%)		
occurrences causally related to treatment / all	0 / 4		
deaths causally related to treatment / all	0 / 0		
B-cell lymphoma			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Hepatoblastoma recurrent			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Neoplasm progression			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Recurrent cancer			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Vascular disorders			
Capillary leak syndrome			

subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Venoocclusive disease				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
General disorders and administration site conditions				
Pyrexia				
subjects affected / exposed	8 / 67 (11.94%)			
occurrences causally related to treatment / all	0 / 10			
deaths causally related to treatment / all	0 / 0			
General physical health deterioration				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Multiple organ dysfunction syndrome				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Oedema peripheral				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Systemic inflammatory response syndrome				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	1 / 1			
deaths causally related to treatment / all	0 / 0			
Immune system disorders				
Graft versus host disease in gastrointestinal tract				

subjects affected / exposed	2 / 67 (2.99%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		
Graft versus host disease in skin			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Respiratory, thoracic and mediastinal disorders			
Dyspnoea			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		
Respiratory failure			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		
Cough			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Pleural effusion			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Pulmonary embolism			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Investigations			
Adenovirus test positive			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		

Polyomavirus test positive				
subjects affected / exposed	2 / 67 (2.99%)			
occurrences causally related to treatment / all	0 / 2			
deaths causally related to treatment / all	0 / 0			
Aspergillus test positive				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Blood urine				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Injury, poisoning and procedural complications				
Transplant failure				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Cardiac disorders				
Cardiac arrest				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Cardiac tamponade				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Nervous system disorders				
Aphasia				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Encephalopathy				

subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Epilepsy				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Paraplegia				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Partial seizures				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Sciatica				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Blood and lymphatic system disorders				
Bone marrow failure				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Lymphopenia				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Gastrointestinal disorders				
Diarrhoea				
subjects affected / exposed	2 / 67 (2.99%)			
occurrences causally related to treatment / all	0 / 3			
deaths causally related to treatment / all	0 / 0			
Vomiting				

subjects affected / exposed	2 / 67 (2.99%)			
occurrences causally related to treatment / all	0 / 2			
deaths causally related to treatment / all	0 / 0			
Abdominal pain upper				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Gastritis				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Gastrointestinal haemorrhage				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Mechanical ileus				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Oesophageal haemorrhage				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Renal and urinary disorders				
Renal failure				
subjects affected / exposed	2 / 67 (2.99%)			
occurrences causally related to treatment / all	0 / 3			
deaths causally related to treatment / all	0 / 0			
Chronic kidney disease				
subjects affected / exposed	1 / 67 (1.49%)			
occurrences causally related to treatment / all	0 / 1			
deaths causally related to treatment / all	0 / 0			
Cystitis haemorrhagic				

subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	1 / 1		
deaths causally related to treatment / all	0 / 0		
Infections and infestations			
Cytomegalovirus infection			
subjects affected / exposed	3 / 67 (4.48%)		
occurrences causally related to treatment / all	0 / 4		
deaths causally related to treatment / all	0 / 0		
Epstein-Barr virus infection			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		
Herpes zoster			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		
Pneumonia			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences causally related to treatment / all	0 / 2		
deaths causally related to treatment / all	0 / 0		
Adenovirus infection			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Bacterial sepsis			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Cystitis			
subjects affected / exposed	0 / 67 (0.00%)		
occurrences causally related to treatment / all	0 / 0		
deaths causally related to treatment / all	0 / 0		
Device related infection			

subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Device related sepsis			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Gastroenteritis rotavirus			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Infection			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Localised infection			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
lung infection			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 0		
Viral sepsis			
subjects affected / exposed	1 / 67 (1.49%)		
occurrences causally related to treatment / all	0 / 1		
deaths causally related to treatment / all	0 / 1		

Frequency threshold for reporting non-serious adverse events: 3 %

Non-serious adverse events	OKT-3	ATG Fresenius	CAMPATH
Total subjects affected by non-serious adverse events			
subjects affected / exposed	21 / 51 (41.18%)	3 / 11 (27.27%)	2 / 5 (40.00%)
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Acute myeloid leukaemia recurrent			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	1 / 5 (20.00%)
occurrences (all)	2	0	1
General disorders and administration site conditions			
General physical health deterioration			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences (all)	2	0	0
Pyrexia			
subjects affected / exposed	5 / 51 (9.80%)	2 / 11 (18.18%)	1 / 5 (20.00%)
occurrences (all)	6	3	2
Renal and urinary disorders			
Renal failure			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences (all)	2	0	0
Infections and infestations			
Cytomegalovirus infection			
subjects affected / exposed	5 / 51 (9.80%)	1 / 11 (9.09%)	0 / 5 (0.00%)
occurrences (all)	7	2	0
Adenovirus infection			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences (all)	2	0	0
Epstein-Barr virus infection			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences (all)	2	0	0
Herpes zoster			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences (all)	2	0	0
Pneumonia			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences (all)	2	0	0
Metabolism and nutrition disorders			

Cachexia			
subjects affected / exposed	2 / 51 (3.92%)	0 / 11 (0.00%)	0 / 5 (0.00%)
occurrences (all)	2	0	0

Non-serious adverse events	Total		
Total subjects affected by non-serious adverse events			
subjects affected / exposed	26 / 67 (38.81%)		
Neoplasms benign, malignant and unspecified (incl cysts and polyps)			
Acute myeloid leukaemia recurrent			
subjects affected / exposed	3 / 67 (4.48%)		
occurrences (all)	3		
General disorders and administration site conditions			
General physical health deterioration			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences (all)	2		
Pyrexia			
subjects affected / exposed	8 / 67 (11.94%)		
occurrences (all)	11		
Renal and urinary disorders			
Renal failure			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences (all)	2		
Infections and infestations			
Cytomegalovirus infection			
subjects affected / exposed	6 / 67 (8.96%)		
occurrences (all)	9		
Adenovirus infection			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences (all)	2		
Epstein-Barr virus infection			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences (all)	2		
Herpes zoster			
subjects affected / exposed	2 / 67 (2.99%)		
occurrences (all)	2		
Pneumonia			

subjects affected / exposed occurrences (all)	2 / 67 (2.99%) 2		
Metabolism and nutrition disorders Cachexia subjects affected / exposed occurrences (all)	 2 / 67 (2.99%) 2		

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
09 November 2006	Amendment 01, study start
08 March 2007	Amendment 02, change of sponsor
26 May 2010	Amendment 04, prolongation of study, increase of number of study participants
14 May 2012	Amendment 05, temporary stop of study
17 June 2014	Amendment 06, Re-start of study

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? Yes

Date	Interruption	Restart date
14 May 2012	temporary stop of study due to withdraw of one conditioning drug from the market	17 June 2014

Notes:

Limitations and caveats

None reported