



Clinical trial results:

A Phase 2a/2b Double-Blind, Randomized, Placebo-Controlled Study Assessing Efficacy, Safety, and Dose-Response of Vatelizumab in Patients with Relapsing-Remitting Multiple Sclerosis (RRMS)

Summary

| | |
|--------------------------|----------------|
| EudraCT number | 2014-001643-20 |
| Trial protocol | DE PL SE |
| Global end of trial date | 06 April 2016 |

Results information

| | |
|--------------------------------|--------------|
| Result version number | v1 (current) |
| This version publication date | 22 July 2017 |
| First version publication date | 22 July 2017 |

Trial information

Trial identification

| | |
|-----------------------|----------|
| Sponsor protocol code | DRI13839 |
|-----------------------|----------|

Additional study identifiers

| | |
|------------------------------------|--------------------|
| ISRCTN number | - |
| ClinicalTrials.gov id (NCT number) | NCT02222948 |
| WHO universal trial number (UTN) | U1111-1153-3840 |
| Other trial identifiers | Study name: EMPIRE |

Notes:

Sponsors

| | |
|------------------------------|--|
| Sponsor organisation name | Genzyme Corporation |
| Sponsor organisation address | 500 Kendall Street, Cambridge, MA, United States, 02142 |
| Public contact | Trial Transparency Team, Sanofi aventis recherche & développement, Contact-US@sanofi.com |
| Scientific contact | Trial Transparency Team, Sanofi aventis recherche & développement, Contact-US@sanofi.com |

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 | 27 September 2016 |
| Is this the analysis of the primary completion data? | No |
| Global end of trial reached? | Yes |
| Global end of trial date | 06 April 2016 |
| Was the trial ended prematurely? | Yes |

Notes:

General information about the trial

Main objective of the trial:

- To assess the efficacy of vatelizumab compared to placebo as measured by a reduction in new contrast-enhancing lesions (CELS) in Relapsing-Remitting Multiple Sclerosis (RRMS) subjects; and
- To evaluate multiple doses of vatelizumab for a dose-response.

Protection of trial subjects:

Subjects were fully informed of all pertinent aspects of the clinical trial as well as the possibility to discontinue at any time in language and terms appropriate for the subject and considering the local culture. During the course of the trial, subjects were provided with individual subject cards indicating the nature of the trial the subject is participating, contact details and any information needed in the event of a medical emergency. Collected personal data and human biological samples were processed in compliance with the Sanofi-Aventis Group Personal Data Protection Charter ensuring that the Group abides by the laws governing personal data protection in force in all countries in which it operates.

Background therapy: -

Evidence for comparator: -

| | |
|---|-------------------|
| Actual start date of recruitment | 23 September 2014 |
| Long term follow-up planned | Yes |
| Long term follow-up rationale | Safety |
| Long term follow-up duration | 23 Months |
| Independent data monitoring committee (IDMC) involvement? | Yes |

Notes:

Population of trial subjects

Subjects enrolled per country

| | |
|--------------------------------------|------------------------|
| Country: Number of subjects enrolled | Poland: 39 |
| Country: Number of subjects enrolled | Russian Federation: 54 |
| Country: Number of subjects enrolled | United States: 17 |
| Country: Number of subjects enrolled | Canada: 2 |
| Worldwide total number of subjects | 112 |
| EEA total number of subjects | 39 |

Notes:

Subjects enrolled per age group

| | |
|--|---|
| In utero | 0 |
| Preterm newborn - gestational age < 37 | 0 |

| | |
|--|-----|
| wk | |
| 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) | 112 |
| From 65 to 84 years | 0 |
| 85 years and over | 0 |

Subject disposition

Recruitment

Recruitment details:

The study was conducted at 21 sites in 4 countries from 23 September 2014 to 06 April 2016. A total of 183 subjects were screened, of whom, 112 randomized in the study. Based on the results of an interim analysis, a decision was made to discontinue study treatment as per Sponsor's decision, which was notified to all investigators in October 2015.

Pre-assignment

Screening details:

First 48 subjects were randomized in 1:1 ratio to placebo or vatelizumab 1600 mg. After randomization of 48th subject, additional 120 subjects were to be randomized which was not completed based on results of an interim analysis and only 64 additional subjects randomized to vatelizumab 1600 mg, 1200 mg, 800 mg, 400 mg or placebo in 1:1:1:1:1 ratio.

Period 1

| | |
|------------------------------|--|
| Period 1 title | Overall Study (overall period) |
| Is this the baseline period? | Yes |
| Allocation method | Randomised - controlled |
| Blinding used | Double blind |
| Roles blinded | Investigator, Subject, Carer, Assessor |

Arms

| | |
|------------------------------|---------|
| Are arms mutually exclusive? | Yes |
| Arm title | Placebo |

Arm description:

Placebo (for vatelizumab) intravenous (IV) infusion at Week 0, 2, 4, and 8.

| | |
|--|---------------------------|
| Arm type | Placebo |
| Investigational medicinal product name | Placebo (for Vatelizumab) |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Solution for infusion |
| Routes of administration | Intravenous use |

Dosage and administration details:

Intravenous infusion over a 60 minutes period.

| | |
|------------------|---------------------|
| Arm title | Vatelizumab 1600 mg |
|------------------|---------------------|

Arm description:

Vatelizumab 1600 mg IV infusion at Week 0, 2, 4, and 8.

| | |
|--|-----------------------|
| Arm type | Experimental |
| Investigational medicinal product name | Vatelizumab |
| Investigational medicinal product code | SAR339658 |
| Other name | |
| Pharmaceutical forms | Solution for infusion |
| Routes of administration | Intravenous use |

Dosage and administration details:

Intravenous infusion over a 60 minutes period.

| | |
|------------------|---------------------|
| Arm title | Vatelizumab 1200 mg |
|------------------|---------------------|

Arm description:

Vatelizumab 1200 mg IV infusion at Week 0, 2, 4, and 8.

| | |
|----------|--------------|
| Arm type | Experimental |
|----------|--------------|

| | |
|--|-----------------------|
| Investigational medicinal product name | Vatelizumab |
| Investigational medicinal product code | SAR339658 |
| Other name | |
| Pharmaceutical forms | Solution for infusion |
| Routes of administration | Intravenous use |

Dosage and administration details:

Intravenous infusion over a 60 minutes period.

| | |
|------------------|--------------------|
| Arm title | Vatelizumab 800 mg |
|------------------|--------------------|

Arm description:

Vatelizumab 800 mg IV infusion at Week 0, 2, 4, and 8.

| | |
|--|-----------------------|
| Arm type | Experimental |
| Investigational medicinal product name | Vatelizumab |
| Investigational medicinal product code | SAR339658 |
| Other name | |
| Pharmaceutical forms | Solution for infusion |
| Routes of administration | Intravenous use |

Dosage and administration details:

Intravenous infusion over a 60 minutes period.

| | |
|------------------|--------------------|
| Arm title | Vatelizumab 400 mg |
|------------------|--------------------|

Arm description:

Vatelizumab 400 mg IV infusion at Week 0, 2, 4, and 8.

| | |
|--|-----------------------|
| Arm type | Experimental |
| Investigational medicinal product name | Vatelizumab |
| Investigational medicinal product code | SAR339658 |
| Other name | |
| Pharmaceutical forms | Solution for infusion |
| Routes of administration | Intravenous use |

Dosage and administration details:

Intravenous infusion over a 60 minutes period.

| Number of subjects in period 1 | Placebo | Vatelizumab 1600 mg | Vatelizumab 1200 mg |
|---------------------------------------|---------|---------------------|---------------------|
| Started | 38 | 36 | 13 |
| Completed | 27 | 30 | 6 |
| Not completed | 11 | 6 | 7 |
| Consent withdrawn by subject | 3 | 5 | 3 |
| Study terminated by sponsor | 7 | 1 | 4 |
| Other than specified | - | - | - |
| Lost to follow-up | 1 | - | - |

| Number of subjects in period 1 | Vatelizumab 800 mg | Vatelizumab 400 mg |
|---------------------------------------|--------------------|--------------------|
| Started | 12 | 13 |
| Completed | 6 | 6 |
| Not completed | 6 | 7 |
| Consent withdrawn by subject | 3 | 5 |
| Study terminated by sponsor | 2 | 2 |

| | | |
|----------------------|---|---|
| Other than specified | 1 | - |
| Lost to follow-up | - | - |

Baseline characteristics

Reporting groups

| | |
|---|---------------------|
| Reporting group title | Placebo |
| Reporting group description: Placebo (for vatelizumab) intravenous (IV) infusion at Week 0, 2, 4, and 8. | |
| Reporting group title | Vatelizumab 1600 mg |
| Reporting group description: Vatelizumab 1600 mg IV infusion at Week 0, 2, 4, and 8. | |
| Reporting group title | Vatelizumab 1200 mg |
| Reporting group description: Vatelizumab 1200 mg IV infusion at Week 0, 2, 4, and 8. | |
| Reporting group title | Vatelizumab 800 mg |
| Reporting group description: Vatelizumab 800 mg IV infusion at Week 0, 2, 4, and 8. | |
| Reporting group title | Vatelizumab 400 mg |
| Reporting group description: Vatelizumab 400 mg IV infusion at Week 0, 2, 4, and 8. | |

| Reporting group values | Placebo | Vatelizumab 1600 mg | Vatelizumab 1200 mg |
|------------------------------------|---------|---------------------|---------------------|
| Number of subjects | 38 | 36 | 13 |
| Age categorical Units: Subjects | | | |

| | | | |
|---|----------------|-----------------|----------------|
| Age continuous Units: years arithmetic mean standard deviation | 37.4 ± 9.08 | 33.6 ± 10.02 | 32.4 ± 6.38 |
| Gender categorical Units: Subjects | | | |
| Female | 27 | 23 | 8 |
| Male | 11 | 13 | 5 |

| Reporting group values | Vatelizumab 800 mg | Vatelizumab 400 mg | Total |
|------------------------------------|--------------------|--------------------|-------|
| Number of subjects | 12 | 13 | 112 |
| Age categorical Units: Subjects | | | |

| | | | |
|---|----------------|----------------|----|
| Age continuous Units: years arithmetic mean standard deviation | 34.5 ± 8.04 | 34.2 ± 9.42 | - |
| Gender categorical Units: Subjects | | | |
| Female | 5 | 9 | 72 |
| Male | 7 | 4 | 40 |

End points

End points reporting groups

| | |
|---|---------------------|
| Reporting group title | Placebo |
| Reporting group description: Placebo (for vatelizumab) intravenous (IV) infusion at Week 0, 2, 4, and 8. | |
| Reporting group title | Vatelizumab 1600 mg |
| Reporting group description: Vatelizumab 1600 mg IV infusion at Week 0, 2, 4, and 8. | |
| Reporting group title | Vatelizumab 1200 mg |
| Reporting group description: Vatelizumab 1200 mg IV infusion at Week 0, 2, 4, and 8. | |
| Reporting group title | Vatelizumab 800 mg |
| Reporting group description: Vatelizumab 800 mg IV infusion at Week 0, 2, 4, and 8. | |
| Reporting group title | Vatelizumab 400 mg |
| Reporting group description: Vatelizumab 400 mg IV infusion at Week 0, 2, 4, and 8. | |

Primary: Brain Magnetic Resonance Imaging (MRI) Assessment: Cumulative Number of New T1 Gadolinium (Gd) Contrast-Enhancing Lesions (CELs) Per MRI Scan

| | |
|-----------------|--|
| End point title | Brain Magnetic Resonance Imaging (MRI) Assessment: Cumulative Number of New T1 Gadolinium (Gd) Contrast-Enhancing Lesions (CELs) Per MRI Scan ^[1] |
|-----------------|--|

End point description:

Cumulative number of Gd-enhancing T1-lesions per MRI scan is the total number of Gd-enhancing T1-lesions that occurred during the treatment period divided by the total number of scans performed during the treatment period. Analysis was performed on safety population defined as randomized population who actually received at least 1 dose or part of a dose of study drug analyzed according to the treatment actually received. Here, 'n' signifies number of subjects with available data for specified timepoints.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Week 4, Week 8 and Week 12 (End of Treatment [EOT]) (maximum exposure: 62 days)

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: As the endpoint is descriptive in nature, no statistical analysis is provided.

| End point values | Placebo | Vatelizumab 1600 mg | Vatelizumab 1200 mg | Vatelizumab 800 mg |
|--------------------------------------|-----------------|---------------------|---------------------|--------------------|
| Subject group type | Reporting group | Reporting group | Reporting group | Reporting group |
| Number of subjects analysed | 38 | 36 | 13 | 12 |
| Units: lesions per scan | | | | |
| arithmetic mean (standard deviation) | | | | |
| Week 4 (n= 33, 34, 11, 10, 11) | 2.8 (± 5.41) | 2 (± 2.65) | 5.3 (± 8.7) | 3.2 (± 3.43) |
| Week 8 (n= 30, 32, 8, 8, 8) | 4.8 (± 8.08) | 3.3 (± 4.99) | 14.8 (± 16.86) | 3.8 (± 3.92) |
| Week 12 (EOT [n= 26, 30, 7, 6, 5]) | 8.1 (± 12.25) | 5.5 (± 7.4) | 21.1 (± 39.21) | 6.8 (± 6.62) |

| | | | | |
|--------------------------------------|-----------------------|--|--|--|
| End point values | Vatelizumab 400 mg | | | |
| Subject group type | Reporting group | | | |
| Number of subjects analysed | 13 | | | |
| Units: lesions per scan | | | | |
| arithmetic mean (standard deviation) | | | | |
| Week 4 (n= 33, 34, 11, 10, 11) | 1.8 (± 2.64) | | | |
| Week 8 (n= 30, 32, 8, 8, 8) | 1.6 (± 2.77) | | | |
| Week 12 (EOT [n= 26, 30, 7, 6, 5]) | 1 (± 2.24) | | | |

Statistical analyses

No statistical analyses for this end point

Primary: Brain MRI Assessment: Cumulative Number of New or Newly Enlarging T2 Lesions per MRI Scan

| | |
|-----------------|--|
| End point title | Brain MRI Assessment: Cumulative Number of New or Newly Enlarging T2 Lesions per MRI Scan ^[2] |
|-----------------|--|

End point description:

Number of Gd-enhancing T2-lesions per scan is the total number of Gd-enhancing T2-lesions that occurred during the treatment period divided by the total number of scans performed during the treatment period. Analysis was performed on safety population. Here, 'n' signifies number of subjects with available data for specified timepoints.

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

Week 4, Week 8 and Week 12 (EOT) (maximum exposure: 62 days)

Notes:

[2] - 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: As the endpoint is descriptive in nature, no statistical analysis is provided.

| | | | | |
|--------------------------------------|-----------------|------------------------|------------------------|-----------------------|
| End point values | Placebo | Vatelizumab 1600 mg | Vatelizumab 1200 mg | Vatelizumab 800 mg |
| Subject group type | Reporting group | Reporting group | Reporting group | Reporting group |
| Number of subjects analysed | 38 | 36 | 13 | 12 |
| Units: lesions per scan | | | | |
| arithmetic mean (standard deviation) | | | | |
| Week 4 (n= 33, 34, 11, 10, 11) | 3.5 (± 6.3) | 2.9 (± 3.37) | 6.5 (± 9.23) | 4.7 (± 5.83) |
| Week 8 (n= 30, 32, 8, 8, 8) | 6.4 (± 9.94) | 6 (± 8.25) | 15.8 (± 17.79) | 5.4 (± 5.18) |
| Week 12 (EOT [n= 26, 30, 7, 6, 5]) | 10.2 (± 14.29) | 7.9 (± 9.58) | 21.4 (± 36.57) | 8.7 (± 8.38) |

| | | | | |
|-----------------------------|-----------------------|--|--|--|
| End point values | Vatelizumab 400 mg | | | |
| Subject group type | Reporting group | | | |
| Number of subjects analysed | 13 | | | |

| | | | | |
|--------------------------------------|-------------------|--|--|--|
| Units: lesions per scan | | | | |
| arithmetic mean (standard deviation) | | | | |
| Week 4 (n= 33, 34, 11, 10, 11) | 2.7 (\pm 3.58) | | | |
| Week 8 (n= 30, 32, 8, 8, 8) | 2.8 (\pm 4.2) | | | |
| Week 12 (EOT [n= 26, 30, 7, 6, 5]) | 2 (\pm 3.94) | | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Pharmacokinetics: Serum Concentration of Vatelizumab

| | |
|-----------------|---|
| End point title | Pharmacokinetics: Serum Concentration of Vatelizumab ^[3] |
|-----------------|---|

End point description:

Blood samples were collected for determination of serum vatelizumab concentration at Week 0, 2, 4 and 8 prior to the start of infusion and at the end of infusion. A single PK sample was collected at Week 12 (all subjects) and Week 14, 20, and 32 (subjects not participating in separate extension study). Analysis was performed on safety population. Here, 'n' signifies number of subjects with available data for specified timepoints.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

Week 0, 2, 4, 8 (pre-dose and any time after the end of infusion); Week 12, 14, 20 and Week 32 (anytime)

Notes:

[3] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period. Justification: The endpoint was planned to be analyzed only for vatelizumab, and not for placebo.

| End point values | Vatelizumab 1600 mg | Vatelizumab 1200 mg | Vatelizumab 800 mg | Vatelizumab 400 mg |
|---|------------------------|------------------------|-----------------------|-----------------------|
| Subject group type | Reporting group | Reporting group | Reporting group | Reporting group |
| Number of subjects analysed | 36 | 13 | 12 | 13 |
| Units: µg/mL | | | | |
| arithmetic mean (standard deviation) | | | | |
| Week 0:predose (n=36,13,12,13) | 12.5 (\pm 75.13) | 0.1 (\pm 0.34) | 0 (\pm 0) | 0 (\pm 0) |
| Week 0:after the end of infusion (n=36,13,12,13) | 478.4 (\pm 148.33) | 363 (\pm 123.26) | 248.9 (\pm 46.59) | 123.8 (\pm 24.54) |
| Week 2:predose (n=35,11,10,11) | 121 (\pm 28.1) | 106.7 (\pm 21.13) | 59.3 (\pm 14.08) | 23 (\pm 10.95) |
| Week 2:after the end of infusion (n=35,10,9,11) | 595.8 (\pm 124.47) | 440.9 (\pm 77.01) | 284.7 (\pm 42.61) | 137.3 (\pm 35.11) |
| Week 4:predose (n=33,10,8,9) | 198.5 (\pm 46.12) | 181.7 (\pm 71.9) | 106.2 (\pm 26.65) | 45.1 (\pm 24.34) |
| Week 4:after the end of infusion (n=33,10,8,9) | 657.4 (\pm 128.34) | 512.6 (\pm 86.56) | 325.2 (\pm 50.14) | 163.9 (\pm 46.13) |
| Week 8:predose (n=30,6,6,6) | 154.1 (\pm 49.38) | 126.5 (\pm 46.58) | 82.2 (\pm 29.87) | 22.9 (\pm 7.23) |
| Week 8:after the end of infusion (n=29,6,6,6) | 579.9 (\pm 176.2) | 493.4 (\pm 87.59) | 323.6 (\pm 47.36) | 134.7 (\pm 20.89) |
| Week 12:(n=35,13,12,12) | 130.6 (\pm 50.52) | 136.3 (\pm 57) | 74.6 (\pm 22.81) | 30.7 (\pm 20.67) |
| Week 14:post-treatment (n=6,7,4,4) | 64.1 (\pm 23.57) | 68.6 (\pm 44.62) | 28.7 (\pm 12.38) | 9.9 (\pm 4.02) |
| Week 20:post-treatment (n= 3, 4, 5, 4) | 5.3 (\pm 6.51) | 7 (\pm 4.59) | 2 (\pm 1.4) | 2.4 (\pm 3.74) |

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

All Adverse Events (AEs) were collected from signature of the informed consent form up to the final visit (Week 104) regardless of seriousness or relationship to investigational product.

Adverse event reporting additional description:

Reported AEs are treatment-emergent adverse events that is AEs that developed/worsened during the 'on treatment period' (time from the first administration of study drug to the end of the safety follow-up period [Week 104]).

| | |
|-----------------|------------|
| Assessment type | Systematic |
|-----------------|------------|

Dictionary used

| | |
|-----------------|--------|
| Dictionary name | MedDRA |
|-----------------|--------|

| | |
|--------------------|------|
| Dictionary version | 19.0 |
|--------------------|------|

Reporting groups

| | |
|-----------------------|---------|
| Reporting group title | Placebo |
|-----------------------|---------|

Reporting group description:

Placebo (for vatelizumab) IV infusion at Week 0, 2, 4, and 8.

| | |
|-----------------------|---------------------|
| Reporting group title | Vatelizumab 1600 mg |
|-----------------------|---------------------|

Reporting group description:

Vatelizumab 1600 mg IV infusion at Week 0, 2, 4, and 8.

| | |
|-----------------------|---------------------|
| Reporting group title | Vatelizumab 1200 mg |
|-----------------------|---------------------|

Reporting group description:

Vatelizumab 1200 mg IV infusion at Week 0, 2, 4, and 8.

| | |
|-----------------------|--------------------|
| Reporting group title | Vatelizumab 800 mg |
|-----------------------|--------------------|

Reporting group description:

Vatelizumab 800 mg IV infusion at Week 0, 2, 4, and 8.

| | |
|-----------------------|--------------------|
| Reporting group title | Vatelizumab 400 mg |
|-----------------------|--------------------|

Reporting group description:

Vatelizumab 400 mg IV infusion at Week 0, 2, 4, and 8.

| Serious adverse events | Placebo | Vatelizumab 1600 mg | Vatelizumab 1200 mg |
|---|----------------|---------------------|---------------------|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 0 / 38 (0.00%) | 1 / 36 (2.78%) | 0 / 13 (0.00%) |
| number of deaths (all causes) | 0 | 0 | 0 |
| number of deaths resulting from adverse events | | | |
| Reproductive system and breast disorders | | | |
| Ovarian Cyst | | | |
| subjects affected / exposed | 0 / 38 (0.00%) | 1 / 36 (2.78%) | 0 / 13 (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 |

| | | | |
|------------------------|--------------------|--------------------|--|
| Serious adverse events | Vatelizumab 800 mg | Vatelizumab 400 mg | |
|------------------------|--------------------|--------------------|--|

| | | | |
|---|----------------|----------------|--|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 0 / 12 (0.00%) | 0 / 13 (0.00%) | |
| number of deaths (all causes) | 0 | 0 | |
| number of deaths resulting from adverse events | | | |
| Reproductive system and breast disorders | | | |
| Ovarian Cyst | | | |
| subjects affected / exposed | 0 / 12 (0.00%) | 0 / 13 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |

Frequency threshold for reporting non-serious adverse events: 5 %

| Non-serious adverse events | Placebo | Vatelizumab 1600 mg | Vatelizumab 1200 mg |
|---|------------------|---------------------|---------------------|
| Total subjects affected by non-serious adverse events | | | |
| subjects affected / exposed | 13 / 38 (34.21%) | 9 / 36 (25.00%) | 2 / 13 (15.38%) |
| Investigations | | | |
| Alanine Aminotransferase Increased | | | |
| subjects affected / exposed | 2 / 38 (5.26%) | 0 / 36 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 2 | 0 | 0 |
| Injury, poisoning and procedural complications | | | |
| Contusion | | | |
| subjects affected / exposed | 1 / 38 (2.63%) | 0 / 36 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 2 | 0 | 0 |
| Infusion Related Reaction | | | |
| subjects affected / exposed | 2 / 38 (5.26%) | 1 / 36 (2.78%) | 2 / 13 (15.38%) |
| occurrences (all) | 2 | 1 | 2 |
| Nervous system disorders | | | |
| Headache | | | |
| subjects affected / exposed | 5 / 38 (13.16%) | 5 / 36 (13.89%) | 1 / 13 (7.69%) |
| occurrences (all) | 5 | 5 | 1 |
| General disorders and administration site conditions | | | |
| Asthenia | | | |
| subjects affected / exposed | 0 / 38 (0.00%) | 0 / 36 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Pyrexia | | | |

| | | | |
|--|---------------------|---------------------|---------------------|
| subjects affected / exposed occurrences (all) | 1 / 38 (2.63%) 1 | 0 / 36 (0.00%) 0 | 0 / 13 (0.00%) 0 |
| Gastrointestinal disorders | | | |
| Abdominal Pain Upper | | | |
| subjects affected / exposed | 0 / 38 (0.00%) | 3 / 36 (8.33%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 3 | 0 |
| Gastritis Erosive | | | |
| subjects affected / exposed | 0 / 38 (0.00%) | 0 / 36 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Renal and urinary disorders | | | |
| Leukocyturia | | | |
| subjects affected / exposed | 0 / 38 (0.00%) | 0 / 36 (0.00%) | 1 / 13 (7.69%) |
| occurrences (all) | 0 | 0 | 1 |
| Endocrine disorders | | | |
| Autoimmune Thyroiditis | | | |
| subjects affected / exposed | 0 / 38 (0.00%) | 0 / 36 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Infections and infestations | | | |
| Oral Herpes | | | |
| subjects affected / exposed | 0 / 38 (0.00%) | 0 / 36 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 0 | 0 | 0 |
| Upper Respiratory Tract Infection | | | |
| subjects affected / exposed | 2 / 38 (5.26%) | 0 / 36 (0.00%) | 0 / 13 (0.00%) |
| occurrences (all) | 2 | 0 | 0 |
| Urinary Tract Infection | | | |
| subjects affected / exposed | 2 / 38 (5.26%) | 1 / 36 (2.78%) | 0 / 13 (0.00%) |
| occurrences (all) | 3 | 1 | 0 |

| | | | |
|---|--------------------|--------------------|--|
| Non-serious adverse events | Vatelizumab 800 mg | Vatelizumab 400 mg | |
| Total subjects affected by non-serious adverse events | | | |
| subjects affected / exposed | 3 / 12 (25.00%) | 3 / 13 (23.08%) | |
| Investigations | | | |
| Alanine Aminotransferase Increased | | | |
| subjects affected / exposed | 2 / 12 (16.67%) | 0 / 13 (0.00%) | |
| occurrences (all) | 2 | 0 | |
| Injury, poisoning and procedural complications | | | |

| | | | |
|---|--|--|--|
| Contusion subjects affected / exposed occurrences (all) | 0 / 12 (0.00%) 0 | 1 / 13 (7.69%) 1 | |
| Infusion Related Reaction subjects affected / exposed occurrences (all) | 0 / 12 (0.00%) 0 | 0 / 13 (0.00%) 0 | |
| Nervous system disorders Headache subjects affected / exposed occurrences (all) | 0 / 12 (0.00%) 0 | 1 / 13 (7.69%) 1 | |
| General disorders and administration site conditions Asthenia subjects affected / exposed occurrences (all) Pyrexia subjects affected / exposed occurrences (all) | 1 / 12 (8.33%) 1 0 / 12 (0.00%) 0 | 0 / 13 (0.00%) 0 1 / 13 (7.69%) 1 | |
| Gastrointestinal disorders Abdominal Pain Upper subjects affected / exposed occurrences (all) Gastritis Erosive subjects affected / exposed occurrences (all) | 0 / 12 (0.00%) 0 0 / 12 (0.00%) 0 | 0 / 13 (0.00%) 0 1 / 13 (7.69%) 1 | |
| Renal and urinary disorders Leukocyturia subjects affected / exposed occurrences (all) | 0 / 12 (0.00%) 0 | 0 / 13 (0.00%) 0 | |
| Endocrine disorders Autoimmune Thyroiditis subjects affected / exposed occurrences (all) | 0 / 12 (0.00%) 0 | 1 / 13 (7.69%) 1 | |
| Infections and infestations Oral Herpes subjects affected / exposed occurrences (all) Upper Respiratory Tract Infection | 1 / 12 (8.33%) 1 | 0 / 13 (0.00%) 0 | |

| | | | |
|-----------------------------|----------------|----------------|--|
| subjects affected / exposed | 0 / 12 (0.00%) | 1 / 13 (7.69%) | |
| occurrences (all) | 0 | 1 | |
| Urinary Tract Infection | | | |
| subjects affected / exposed | 0 / 12 (0.00%) | 0 / 13 (0.00%) | |
| occurrences (all) | 0 | 0 | |

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

| Date | Amendment |
|------------------|---|
| 23 February 2015 | <p>Amendment 1 addresses the following changes:</p> <ul style="list-style-type: none">•Modified treatment discontinuation criteria: changed the threshold from >10 to >8 new CELs and/or new/newly enlarging T2 lesions for assessing MS disease activity on MRI scan:For subjects who developed more than 8 new CELs and/or 8 new/newly enlarging T2 lesions instead of 10 new CELs and/or 10 new/newly enlarging T2 lesions on any MRI scan after the second infusion of IMP, the Investigator was advised to review the subject's disease status and consider withdrawing the subject from study treatment and starting an approved MS therapy. The central MRI reader would notified the Investigator, study coordinator, and Sponsor when a subject had met these MRI criteria.•Correct description of collection of informed consent for optional extension study at Week 8: Informed consent to be obtained prior to enrolment in the extension study and to be detailed in that protocol only.•Updated text regarding extension study.•Provided additional information regarding acquisition of MRI scan.•Corrected and clarified typos, inconsistencies throughout the protocol. |

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

As per sponsor's decision, the study was discontinued in October 2015 based on planned interim analysis of the primary endpoint. Not linked to any safety concern.

Notes: