



Clinical trial results: Effects of EGCG (Epigallocatechin Gallate) in Chorea Huntington

Summary

EudraCT number	2010-023941-31
Trial protocol	DE
Global end of trial date	09 April 2015

Results information

Result version number	v1 (current)
This version publication date	11 January 2022
First version publication date	11 January 2022
Summary attachment (see zip file)	ETON Summary (ETON Results.pdf)

Trial information

Trial identification

Sponsor protocol code	ETON
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Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT01357681
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Charité - University Medicine Berlin
Sponsor organisation address	Charitéplatz 1, Berlin, Germany, 10117
Public contact	Charité - University Medicine Berlin Dep. of Psychiatry and Psychotherapy Prof. Dr. J. Priller, Charité - University Medicine Berlin Dep. of Psychiatry and Psychotherapy Prof. Dr. J. Priller, 0049 30450617236, eike.spruth@charite.de
Scientific contact	Charité - University Medicine Berlin Dep. of Psychiatry and Psychotherapy Prof. Dr. J. Priller, Charité - University Medicine Berlin Dep. of Psychiatry and Psychotherapy Prof. Dr. J. Priller, 0049 30450617236, eike.spruth@charite.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	09 April 2015
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	09 April 2015
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To assess efficacy of Sunphenon EGCG in patients with Huntington 's Disease

Protection of trial subjects:

Safety laboratory tests, data safety concept, insurance. Treatet in routine care.

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	01 September 2011
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: 54
Worldwide total number of subjects	54
EEA total number of subjects	54

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)	0
Children (2-11 years)	0
Adolescents (12-17 years)	0
Adults (18-64 years)	49
From 65 to 84 years	5
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Recruitment from 26/SEP/2011 (first participant in) till 31/MAR/2014 (last participant in), 4 sites (Berlin, Bochum, Ulm, Muenster)

Pre-assignment

Screening details:

Screening period started on 26/SEP/2011 and ended on 27/MAR/2014.

Period 1

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

Arms

Are arms mutually exclusive?	Yes
Arm title	EGCG

Arm description:

Epigallocatechin-gallate 1200 mg per day

Arm type	Experimental
Investigational medicinal product name	Epigallocatechin-gallate
Investigational medicinal product code	
Other name	Sunphenon EGCG
Pharmaceutical forms	Capsule, hard
Routes of administration	Oral use

Dosage and administration details:

After confirmation of stability EGCG was encapsulated by the trial pharmacy (200 mg per hard gelatin capsule). Participants received 200 mg Sunphenon EGCG orally, b.i.d. for the first month, 400 mg b.i.d. for the second month and 600 mg b.i.d. until month twelve (1200 mg/d). Study medication was administered in the fasting state, i.e. until 60 minutes prior or 60 minutes after breakfast or dinner.

Arm title	Placebo
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Arm description:

Placebo

Arm type	Placebo
Investigational medicinal product name	Placebo
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Capsule, hard
Routes of administration	Oral use

Dosage and administration details:

Administered twice daily for 12 months

Number of subjects in period 1	EGCG	Placebo
Started	30	24
Completed	26	20
Not completed	4	4
Consent withdrawn by subject	1	1
Adverse event, non-fatal	3	1
Protocol deviation	-	2

Baseline characteristics

Reporting groups

Reporting group title	EGCG
Reporting group description: Epigallocatechin-gallate 1200 mg per day	
Reporting group title	Placebo
Reporting group description: Placebo	

Reporting group values	EGCG	Placebo	Total
Number of subjects	30	24	54
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	49.5	47.8	
standard deviation	± 10.8	± 12.4	-
Gender categorical Units: Subjects			
Female	18	13	31
Male	12	11	23

End points

End points reporting groups

Reporting group title	EGCG
Reporting group description:	
Epigallocatechin-gallate 1200 mg per day	
Reporting group title	Placebo
Reporting group description:	
Placebo	

Primary: Cognitive total Score (UHDRS-COG)

End point title	Cognitive total Score (UHDRS-COG)
End point description:	
Differences of baseline vs V14 (after 12 months) are reported	
End point type	Primary
End point timeframe:	
12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	25 ^[1]	20 ^[2]		
Units: Points				
arithmetic mean (standard deviation)	-1.52 (± 18.590)	-1.30 (± 22.005)		

Notes:

[1] - missing values + drop outs excluded (ITT)

[2] - missing values + drop outs excluded (ITT)

Attachments (see zip file)	Clinical Outcome Measures After 12 Months.pdf
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Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description:	
non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	45
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.661
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference

Confidence interval	
sides	2-sided

Primary: Stroop total Score (STRP_T)

End point title	Stroop total Score (STRP_T)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Primary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[3]	20 ^[4]		
Units: Points				
arithmetic mean (standard deviation)	-3.04 (± 13.48)	1.20 (± 14.66)		

Notes:

[3] - drop outs excluded (ITT)

[4] - drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.584
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Primary: Symbol Digit Modalities Test (SDMT)

End point title	Symbol Digit Modalities Test (SDMT)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Primary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	25 ^[5]	20 ^[6]		
Units: Points				
arithmetic mean (standard deviation)	-1.20 (± 4.40)	-2.15 (± 6.00)		

Notes:

[5] - missing values + drop outs excluded (ITT)

[6] - drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	45
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.506
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Primary: Verbal Fluency total Score (VF_T)

End point title	Verbal Fluency total Score (VF_T)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Primary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[7]	20 ^[8]		
Units: Points				
arithmetic mean (standard deviation)	2.00 (± 7.05)	-0.35 (± 5.10)		

Notes:

[7] - drop outs excluded (ITT)

[8] - drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.123
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Secondary: Unified Huntington's Disease Rating Scale (UHDRS) Motor Score (MS)

End point title	Unified Huntington's Disease Rating Scale (UHDRS) Motor Score (MS)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[9]	20 ^[10]		
Units: Points				
arithmetic mean (standard deviation)	1.31 (± 5.050)	3.85 (± 5.687)		

Notes:

[9] - after excluding drop outs (ITT)

[10] - after excluding drop outs (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.192
Method	Wilcoxon (Mann-Whitney)

Secondary: Clinical Global Impression (CGI)

End point title	Clinical Global Impression (CGI)
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End point description:

Differences of baseline vs V14 (after 12 months) are reported

End point type	Secondary
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End point timeframe:

12 months

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[11]	20 ^[12]		
Units: Points				
arithmetic mean (standard deviation)	0.27 (± 0.53)	0.00 (± 0.46)		

Notes:

[11] - after excluding drop outs (ITT)

[12] - after excluding drop outs (ITT)

Statistical analyses

Statistical analysis title	Test of differences
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Statistical analysis description:

non-parametric Mann-Whitney U test

Comparison groups	EGCG v Placebo
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Number of subjects included in analysis	46
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Analysis specification	Post-hoc
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Analysis type	non-inferiority
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P-value	= 0.973
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Method	Wilcoxon (Mann-Whitney)
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Confidence interval

level	95 %
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sides	2-sided
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Secondary: Unified Huntington's Disease Rating Scale (UHDRS) Functional Assessment (FA)

End point title	Unified Huntington's Disease Rating Scale (UHDRS) Functional Assessment (FA)
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End point description:

Differences of baseline vs V14 (after 12 months) are reported

End point type	Secondary
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End point timeframe:

12 months

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[13]	20 ^[14]		
Units: Points				
arithmetic mean (standard deviation)	-0.50 (± 1.39)	-0.90 (± 2.13)		

Notes:

[13] - after excluding drop outs (ITT)

[14] - after excluding drop outs (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.906
Method	Wilcoxon (Mann-Whitney)
Confidence interval	
level	95 %
sides	2-sided

Secondary: Unified Huntington's Disease Rating Scale (UHDRS) Independance (IS)

End point title	Unified Huntington's Disease Rating Scale (UHDRS) Independance (IS)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[15]	20 ^[16]		
Units: Points				
arithmetic mean (standard deviation)	-2.88 (± 5.32)	-1.00 (± 4.47)		

Notes:

[15] - after excluding drop outs (ITT)

[16] - after excluding drop outs (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.275
Method	Wilcoxon (Mann-Whitney)
Confidence interval	
level	95 %
sides	2-sided

Secondary: Unified Huntington's Disease Rating Scale (UHDRS) Behavioral Score (BA)

End point title	Unified Huntington's Disease Rating Scale (UHDRS) Behavioral Score (BA)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[17]	20 ^[18]		
Units: Points				
arithmetic mean (standard deviation)	-2.42 (± 7.54)	1.15 (± 7.44)		

Notes:

[17] - after excluding drop outs (ITT)

[18] - after excluding drop outs (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.304
Method	Wilcoxon (Mann-Whitney)

Confidence interval	
level	95 %
sides	2-sided

Secondary: Beck Depression Inventory (BDI)

End point title	Beck Depression Inventory (BDI)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[19]	20 ^[20]		
Units: Points				
arithmetic mean (standard deviation)	-0.73 (± 4.56)	-0.50 (± 4.97)		

Notes:

[19] - drop outs excluded (ITT)

[20] - drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.987
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Secondary: Mini Mental State Examination (MMSE)

End point title	Mini Mental State Examination (MMSE)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary

End point timeframe:

12 months

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[21]	20 ^[22]		
Units: Points				
arithmetic mean (standard deviation)	-0.31 (± 1.89)	-1.05 (± 2.33)		

Notes:

[21] - drop outs excluded (ITT)

[22] - drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	Placebo v EGCG
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.397
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Secondary: Positive and Negative Affect Schedule (PANAS) - Negative Score

End point title	Positive and Negative Affect Schedule (PANAS) - Negative Score
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[23]	20 ^[24]		
Units: Points				
arithmetic mean (standard deviation)	-0.42 (± 4.51)	-1.40 (± 7.63)		

Notes:

[23] - drop outs excluded (ITT)

[24] - drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	Placebo v EGCG
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.679
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Secondary: Positive and Negative Affect Schedule (PANAS) - Positive Score

End point title	Positive and Negative Affect Schedule (PANAS) - Positive Score
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[25]	20 ^[26]		
Units: Points				
arithmetic mean (standard deviation)	0.23 (± 6.52)	0.60 (± 7.72)		

Notes:

[25] - drop outs excluded (ITT)

[26] - drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo

Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.591
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Secondary: Short Form (36) Health Survey (SF36) - Mental Health (Men)

End point title	Short Form (36) Health Survey (SF36) - Mental Health (Men)
End point description:	
Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe:	
12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	24 ^[27]	16 ^[28]		
Units: Points				
arithmetic mean (standard deviation)	-2.10 (± 15.37)	-0.61 (± 14.32)		

Notes:

[27] - missing values + drop outs excluded (ITT)

[28] - missing values + drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description:	
non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	40
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.618
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Secondary: Short Form (36) Health Survey (SF36) - Physical Functioning (Phy)

End point title	Short Form (36) Health Survey (SF36) - Physical Functioning (Phy)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	24 ^[29]	16 ^[30]		
Units: Points				
arithmetic mean (standard deviation)	-2.44 (± 13.49)	-0.47 (± 6.16)		

Notes:

[29] - missing values + drop outs excluded (ITT)

[30] - missing values + drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	40
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.953
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Secondary: Satisfaction with Life Scale (SWLS)

End point title	Satisfaction with Life Scale (SWLS)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[31]	20 ^[32]		
Units: Points				
arithmetic mean (standard deviation)	-1.00 (± 6.17)	-1.85 (± 7.40)		

Notes:

[31] - drop outs excluded (ITT)

[32] - drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.996
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Secondary: Test of Attentional Performance (TAP) - Phasic Alertness (PA)

End point title	Test of Attentional Performance (TAP) - Phasic Alertness (PA)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	23 ^[33]	16 ^[34]		
Units: Points				
arithmetic mean (standard deviation)	36.91 (± 129.91)	6.31 (± 62.81)		

Notes:

[33] - missing values + drop outs excluded (ITT)

[34] - missing values + drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	39
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.928
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Secondary: Test of Attentional Performance (TAP) - Tonic Alertness (TA)

End point title	Test of Attentional Performance (TAP) - Tonic Alertness (TA)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	23 ^[35]	16 ^[36]		
Units: Points				
arithmetic mean (standard deviation)	40.65 (± 131.06)	-21.69 (± 52.31)		

Notes:

[35] - missing values + drop outs excluded (ITT)

[36] - missing values + drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	Placebo v EGCG
Number of subjects included in analysis	39
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.152
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference

Confidence interval	
sides	2-sided

Secondary: Unified Huntington's Disease Rating Scale (UHDRS) Total Functional Capacity (TFC)

End point title	Unified Huntington's Disease Rating Scale (UHDRS) Total Functional Capacity (TFC)
End point description: Differences of baseline vs V14 (after 12 months) are reported	
End point type	Secondary
End point timeframe: 12 months	

End point values	EGCG	Placebo		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	26 ^[37]	20 ^[38]		
Units: Points				
arithmetic mean (standard deviation)	-0.04 (± 1.46)	-0.75 (± 1.68)		

Notes:

[37] - drop outs excluded (ITT)

[38] - drop outs excluded (ITT)

Statistical analyses

Statistical analysis title	Test of differences
Statistical analysis description: non-parametric Mann-Whitney U test	
Comparison groups	EGCG v Placebo
Number of subjects included in analysis	46
Analysis specification	Post-hoc
Analysis type	non-inferiority
P-value	= 0.296
Method	Wilcoxon (Mann-Whitney)
Parameter estimate	mean rank difference
Confidence interval	
level	95 %
sides	2-sided

Adverse events

Adverse events information

Timeframe for reporting adverse events:

12 months

Assessment type	Non-systematic
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Dictionary used

Dictionary name	self defined
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Dictionary version	1
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Reporting groups

Reporting group title	EGCG
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Reporting group description: -

Reporting group title	Placebo
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Reporting group description: -

Serious adverse events	EGCG	Placebo	
Total subjects affected by serious adverse events			
subjects affected / exposed	8 / 30 (26.67%)	8 / 24 (33.33%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events			
Cardiac disorders			
Arrhythmia	Additional description: Hospitalization		
subjects affected / exposed	1 / 30 (3.33%)	0 / 24 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Surgical and medical procedures			
Inguinal hernia	Additional description: Hospitalization		
subjects affected / exposed	1 / 30 (3.33%)	1 / 24 (4.17%)	
occurrences causally related to treatment / all	0 / 1	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Removal of internal fixation	Additional description: Hospitalization		
subjects affected / exposed	0 / 30 (0.00%)	1 / 24 (4.17%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
Investigation	Additional description: Hospitalization		

subjects affected / exposed	1 / 30 (3.33%)	0 / 24 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
General disorders and administration site conditions			
Rehabilitation therapy	Additional description: Hospitalization		
subjects affected / exposed	0 / 30 (0.00%)	1 / 24 (4.17%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Eye disorders			
Retinal tear	Additional description: Hospitalization		
subjects affected / exposed	1 / 30 (3.33%)	0 / 24 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Reproductive system and breast disorders			
Breast cancer			
subjects affected / exposed	1 / 30 (3.33%)	0 / 24 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Hepatobiliary disorders			
Liver disorder	Additional description: Elevated aminotransferase concentrations		
subjects affected / exposed	1 / 30 (3.33%)	0 / 24 (0.00%)	
occurrences causally related to treatment / all	1 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Skin and subcutaneous tissue disorders			
Prurigo	Additional description: Hospitalization		
subjects affected / exposed	0 / 30 (0.00%)	1 / 24 (4.17%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Psychiatric disorders			
Panic attack	Additional description: Hospitalization		
subjects affected / exposed	1 / 30 (3.33%)	0 / 24 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Depression	Additional description: Hospitalization		

subjects affected / exposed	0 / 30 (0.00%)	2 / 24 (8.33%)	
occurrences causally related to treatment / all	0 / 0	0 / 2	
deaths causally related to treatment / all	0 / 0	0 / 0	
Musculoskeletal and connective tissue disorders			
Fracture treatment	Additional description: Hospitalization		
subjects affected / exposed	0 / 30 (0.00%)	1 / 24 (4.17%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Antibiotic therapy	Additional description: Hospitalization		
subjects affected / exposed	1 / 30 (3.33%)	0 / 24 (0.00%)	
occurrences causally related to treatment / all	0 / 1	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	EGCG	Placebo	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	15 / 30 (50.00%)	14 / 24 (58.33%)	
Investigations			
Creatine kinase elevation			
subjects affected / exposed	4 / 30 (13.33%)	1 / 24 (4.17%)	
occurrences (all)	4	7	
Cardiac disorders			
Cardiac disorder			
subjects affected / exposed	2 / 30 (6.67%)	1 / 24 (4.17%)	
occurrences (all)	2	1	
Nervous system disorders			
Neurological symptom			
subjects affected / exposed	6 / 30 (20.00%)	4 / 24 (16.67%)	
occurrences (all)	6	4	
Headache			
subjects affected / exposed	2 / 30 (6.67%)	4 / 24 (16.67%)	
occurrences (all)	2	4	
General disorders and administration site conditions			

Fall subjects affected / exposed occurrences (all)	7 / 30 (23.33%) 7	5 / 24 (20.83%) 5	
Eye disorders Eye disorder subjects affected / exposed occurrences (all)	4 / 30 (13.33%) 4	1 / 24 (4.17%) 1	
Gastrointestinal disorders Gastrointestinal disorder subjects affected / exposed occurrences (all)	10 / 30 (33.33%) 10	6 / 24 (25.00%) 6	
Respiratory, thoracic and mediastinal disorders Flu-like and respiratory symptoms subjects affected / exposed occurrences (all)	12 / 30 (40.00%) 12	8 / 24 (33.33%) 8	
Hepatobiliary disorders Hepatotoxicity subjects affected / exposed occurrences (all)	6 / 30 (20.00%) 6	0 / 24 (0.00%) 0	
Skin and subcutaneous tissue disorders Skin disorder subjects affected / exposed occurrences (all)	1 / 30 (3.33%) 1	4 / 24 (16.67%) 4	
Psychiatric disorders Psychiatric symptom subjects affected / exposed occurrences (all)	8 / 30 (26.67%) 8	6 / 24 (25.00%) 6	
Renal and urinary disorders Urinary tract disorder subjects affected / exposed occurrences (all)	1 / 30 (3.33%) 1	2 / 24 (8.33%) 2	
Musculoskeletal and connective tissue disorders Musculoskeletal injury subjects affected / exposed occurrences (all)	4 / 30 (13.33%) 4	7 / 24 (29.17%) 7	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported