



A service of the U.S. National Institutes of Health

**Now Available:** [Final Rule for FDAAA 801 and NIH Policy on Clinical Trial Reporting](#)

Trial record **2 of 2** for: H01\_04TP

[Previous Study](#) | [Return to List](#) | [Next Study](#)

## Safety and Immunogenicity of Three Formulations of Vi-CRM197 Vaccine Against S. Typhi in Adults (18-40 Years Old)

**This study has been completed.**

**Sponsor:**  
Novartis

**Information provided by (Responsible Party):**  
Novartis

**ClinicalTrials.gov Identifier:**

NCT01193907

First received: September 1, 2010

Last updated: December 16, 2013

Last verified: December 2013

[History of Changes](#)

[Full Text View](#)

[Tabular View](#)

**[Study Results](#)**

[Disclaimer](#)

[How to Read a Study Record](#)

Results First Received: March 6, 2012

<b>Study Type:</b>	Interventional
<b>Study Design:</b>	Allocation: Randomized; Endpoint Classification: Safety Study; Intervention Model: Parallel Assignment; Masking: Single Blind (Subject); Primary Purpose: Prevention
<b>Condition:</b>	Typhoid Fever
<b>Interventions:</b>	Biological: NVGH Vi-CRM197 12.5 mcg Biological: NVGH Vi-CRM197 5.0 mcg

Biological: NVGH Vi-CRM197 1.25 mcg  
Biological: Vi-polysaccharide vaccine

## ▶ Participant Flow

▢ Hide Participant Flow

### Recruitment Details

Key information relevant to the recruitment process for the overall study, such as dates of the recruitment period and locations

Date of first enrollment: 04 OCT 10 Date of last visit: 18 NOV 10

### Pre-Assignment Details

Significant events and approaches for the overall study following participant enrollment, but prior to group assignment

No text entered.

### Reporting Groups

	Description
NVGH Vi-CRM197 12.5 Mcg	1 dose of 0.5 mL containing 12.5 mcg of Vi-CRM
NVGH Vi-CRM197 5.0 Mcg	1 dose of 0.5 mL containing 5.0 mcg of Vi-CRM
NVGH Vi-CRM197 1.25 Mcg	1 dose of 0.5 mL containing 1.25 mcg of Vi-CRM
Typherix	1 dose of 0.5 mL containing 25 mcg of Vi-PS

### Participant Flow: Overall Study

	NVGH Vi-CRM197 12.5 Mcg	NVGH Vi-CRM197 5.0 Mcg	NVGH Vi-CRM197 1.25 Mcg	Typherix
STARTED	22	22	22	22
COMPLETED	21	22	22	21
NOT COMPLETED	1	0	0	1

**▶ Baseline Characteristics**

 [Hide Baseline Characteristics](#)

**Population Description**

**Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.**

No text entered.

**Reporting Groups**

	Description
<b>NVGH Vi-CRM197 12.5 Mcg</b>	1 dose of 0.5 mL containing 12.5 mcg of Vi-CRM
<b>NVGH Vi-CRM197 5.0 Mcg</b>	1 dose of 0.5 mL containing 5.0 mcg of Vi-CRM
<b>NVGH Vi-CRM197 1.25 Mcg</b>	1 dose of 0.5 mL containing 1.25 mcg of Vi-CRM
<b>Typherix</b>	1 dose of 0.5 mL containing 25 mcg of Vi-PS
<b>Total</b>	Total of all reporting groups

**Baseline Measures**

	NVGH Vi-CRM197 12.5 Mcg	NVGH Vi-CRM197 5.0 Mcg	NVGH Vi-CRM197 1.25 Mcg	Typherix	Total
<b>Overall Participants Analyzed</b> [Units: Participants]	22	22	22	22	88
<b>Age</b> [Units: Participants]					
<b>&lt;=18 years</b>	0	0	0	0	0
<b>Between 18 and 65 years</b>	22	22	22	22	88
<b>&gt;=65 years</b>	0	0	0	0	0
	<b>24.3 (4.9)</b>	<b>24.3 (5.4)</b>	<b>24.0 (5.7)</b>	<b>23.8 (5.5)</b>	<b>24.1 (5.3)</b>

<b>Age</b> [Units: Years] Mean (Standard Deviation)					
<b>Gender</b> [Units: Participants]					
<b>Female</b>	<b>14</b>	<b>15</b>	<b>17</b>	<b>15</b>	<b>61</b>
<b>Male</b>	<b>8</b>	<b>7</b>	<b>5</b>	<b>7</b>	<b>27</b>
<b>Region of Enrollment</b> [Units: Participants]					
<b>Belgium</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>88</b>

## ▶ Outcome Measures

☰ [Hide All Outcome Measures](#)

1. Primary: Number of Subjects Reporting Any Post Immunization Reactions [ Time Frame: During the 7-day period after vaccination ]

<b>Measure Type</b>	Primary
<b>Measure Title</b>	Number of Subjects Reporting Any Post Immunization Reactions
<b>Measure Description</b>	Solicited reactions collected during the 7-day period after vaccination are pain, erythema, induration, chills, malaise, myalgia, headache, arthralgia and fatigue
<b>Time Frame</b>	During the 7-day period after vaccination
<b>Safety Issue</b>	Yes

### Population Description

**Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.**

No text entered.

**Reporting Groups**

	Description
<b>NVGH Vi-CRM197 12.5 Mcg</b>	1 dose of 0.5 mL containing 12.5 mcg of Vi-CRM
<b>NVGH Vi-CRM197 5.0 Mcg</b>	1 dose of 0.5 mL containing 5.0 mcg of Vi-CRM
<b>NVGH Vi-CRM197 1.25 Mcg</b>	1 dose of 0.5 mL containing 1.25 mcg of Vi-CRM
<b>Typherix</b>	1 dose of 0.5 mL containing 25 mcg of Vi-PS

**Measured Values**

	<b>NVGH Vi-CRM197 12.5 Mcg</b>	<b>NVGH Vi-CRM197 5.0 Mcg</b>	<b>NVGH Vi-CRM197 1.25 Mcg</b>	<b>Typherix</b>
<b>Participants Analyzed</b> [Units: Participants]	<b>21</b>	<b>22</b>	<b>22</b>	<b>22</b>
<b>Number of Subjects Reporting Any Post Immunization Reactions</b> [Units: Participants]	<b>18</b>	<b>19</b>	<b>22</b>	<b>16</b>

**No statistical analysis provided for Number of Subjects Reporting Any Post Immunization Reactions**

2. Primary: Number of Subjects Reporting Adverse Events [ Time Frame: During the 28-day period after vaccination ]

<b>Measure Type</b>	Primary
<b>Measure Title</b>	Number of Subjects Reporting Adverse Events
<b>Measure Description</b>	No text entered.
<b>Time Frame</b>	During the 28-day period after vaccination
<b>Safety Issue</b>	Yes

**Population Description**

Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.

No text entered.

**Reporting Groups**

	Description
<b>NVGH Vi-CRM197 12.5 Mcg</b>	1 dose of 0.5 mL containing 12.5 mcg of Vi-CRM
<b>NVGH Vi-CRM197 5.0 Mcg</b>	1 dose of 0.5 mL containing 5.0 mcg of Vi-CRM
<b>NVGH Vi-CRM197 1.25 Mcg</b>	1 dose of 0.5 mL containing 1.25 mcg of Vi-CRM
<b>Typherix</b>	1 dose of 0.5 mL containing 25 mcg of Vi-PS

**Measured Values**

	<b>NVGH Vi-CRM197 12.5 Mcg</b>	<b>NVGH Vi-CRM197 5.0 Mcg</b>	<b>NVGH Vi-CRM197 1.25 Mcg</b>	<b>Typherix</b>
<b>Participants Analyzed</b> [Units: Participants]	<b>21</b>	<b>22</b>	<b>22</b>	<b>22</b>
<b>Number of Subjects Reporting Adverse Events</b> [Units: Participants]	<b>11</b>	<b>16</b>	<b>18</b>	<b>15</b>

**No statistical analysis provided for Number of Subjects Reporting Adverse Events**

3. Primary: Anti-Vi ELISA (Enzyme Linked Immunosorbent Assay) Geometric Mean Concentration (GMC) [ Time Frame: At 28 days after vaccination ]

<b>Measure Type</b>	Primary
---------------------	---------

<b>Measure Title</b>	Anti-Vi ELISA (Enzyme Linked Immunosorbent Assay) Geometric Mean Concentration (GMC)
<b>Measure Description</b>	No text entered.
<b>Time Frame</b>	At 28 days after vaccination
<b>Safety Issue</b>	No

### Population Description

<b>Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.</b>
No text entered.

### Reporting Groups

	Description
<b>NVGH Vi-CRM197 12.5 Mcg</b>	1 dose of 0.5 mL containing 12.5 mcg of Vi-CRM
<b>NVGH Vi-CRM197 5.0 Mcg</b>	1 dose of 0.5 mL containing 5.0 mcg of Vi-CRM
<b>NVGH Vi-CRM197 1.25 Mcg</b>	1 dose of 0.5 mL containing 1.25 mcg of Vi-CRM
<b>Typherix</b>	1 dose of 0.5 mL containing 25 mcg of Vi-PS

### Measured Values

	<b>NVGH Vi-CRM197 12.5 Mcg</b>	<b>NVGH Vi-CRM197 5.0 Mcg</b>	<b>NVGH Vi-CRM197 1.25 Mcg</b>	<b>Typherix</b>
<b>Participants Analyzed</b> [Units: Participants]	<b>21</b>	<b>21</b>	<b>19</b>	<b>20</b>
<b>Anti-Vi ELISA (Enzyme Linked Immunosorbent Assay) Geometric Mean Concentration (GMC)</b> [Units: GMC] Mean (95% Confidence Interval)	<b>192</b> <b>(129 to 286)</b>	<b>111</b> <b>(75 to 165)</b>	<b>63</b> <b>(41 to 95)</b>	<b>37</b> <b>(24 to 55)</b>

**No statistical analysis provided for Anti-Vi ELISA (Enzyme Linked Immunosorbent Assay) Geometric Mean Concentration (GMC)**

## 4. Primary: Percentage of Subjects With at Least 4-fold Increase in Anti-Vi ELISA Titer [ Time Frame: At 28 days after vaccination ]

<b>Measure Type</b>	Primary
<b>Measure Title</b>	Percentage of Subjects With at Least 4-fold Increase in Anti-Vi ELISA Titer
<b>Measure Description</b>	No text entered.
<b>Time Frame</b>	At 28 days after vaccination
<b>Safety Issue</b>	No

**Population Description**

<b>Explanation of how the number of participants for analysis was determined. Includes whether analysis was per protocol, intention to treat, or another method. Also provides relevant details such as imputation technique, as appropriate.</b>
No text entered.

**Reporting Groups**

	<b>Description</b>
<b>NVGH Vi-CRM197 12.5 Mcg</b>	1 dose of 0.5 mL containing 12.5 mcg of Vi-CRM
<b>NVGH Vi-CRM197 5.0 Mcg</b>	1 dose of 0.5 mL containing 5.0 mcg of Vi-CRM
<b>NVGH Vi-CRM197 1.25 Mcg</b>	1 dose of 0.5 mL containing 1.25 mcg of Vi-CRM
<b>Typherix</b>	1 dose of 0.5 mL containing 25 mcg of Vi-PS

**Measured Values**

	<b>NVGH Vi-CRM197 12.5 Mcg</b>	<b>NVGH Vi-CRM197 5.0 Mcg</b>	<b>NVGH Vi-CRM197 1.25 Mcg</b>	<b>Typherix</b>
<b>Participants Analyzed</b> [Units: Participants]	<b>21</b>	<b>21</b>	<b>19</b>	<b>20</b>

<b>Percentage of Subjects With at Least 4-fold Increase in Anti-Vi ELISA Titer</b> [Units: Percentage of subjects] Number (95% Confidence Interval)	<b>100</b> (84 to 100)	<b>100</b> (84 to 100)	<b>95</b> (74 to 100)	<b>95</b> (75 to 100)
---	---------------------------	---------------------------	--------------------------	--------------------------

No statistical analysis provided for Percentage of Subjects With at Least 4-fold Increase in Anti-Vi ELISA Titer

**▶ Serious Adverse Events**

 Hide Serious Adverse Events

<b>Time Frame</b>	No text entered.
<b>Additional Description</b>	No text entered.

**Reporting Groups**

	Description
<b>NVGH Vi-CRM197 12.5 Mcg</b>	1 dose of 0.5 mL containing 12.5 mcg of Vi-CRM
<b>NVGH Vi-CRM197 5.0 Mcg</b>	1 dose of 0.5 mL containing 5.0 mcg of Vi-CRM
<b>NVGH Vi-CRM197 1.25 Mcg</b>	1 dose of 0.5 mL containing 1.25 mcg of Vi-CRM
<b>Typherix</b>	1 dose of 0.5 mL containing 25 mcg of Vi-PS

**Serious Adverse Events**

	NVGH Vi-CRM197 12.5 Mcg	NVGH Vi-CRM197 5.0 Mcg	NVGH Vi-CRM197 1.25 Mcg	Typherix
<b>Total, serious adverse events</b>				
<b># participants affected / at risk</b>	<b>0/21 (0.00%)</b>	<b>0/22 (0.00%)</b>	<b>0/22 (0.00%)</b>	<b>0/22 (0.00%)</b>

## ▶ Other Adverse Events

▢ Hide Other Adverse Events

Time Frame	No text entered.
Additional Description	No text entered.

### Frequency Threshold

Threshold above which other adverse events are reported	5
---	---

### Reporting Groups

	Description
NVGH Vi-CRM197 12.5 Mcg	1 dose of 0.5 mL containing 12.5 mcg of Vi-CRM
NVGH Vi-CRM197 5.0 Mcg	1 dose of 0.5 mL containing 5.0 mcg of Vi-CRM
NVGH Vi-CRM197 1.25 Mcg	1 dose of 0.5 mL containing 1.25 mcg of Vi-CRM
Typherix	1 dose of 0.5 mL containing 25 mcg of Vi-PS

### Other Adverse Events

	NVGH Vi-CRM197 12.5 Mcg	NVGH Vi-CRM197 5.0 Mcg	NVGH Vi-CRM197 1.25 Mcg	Typherix
<b>Total, other (not including serious) adverse events</b>				
<b># participants affected / at risk</b>	<b>19/21 (90.48%)</b>	<b>19/22 (86.36%)</b>	<b>22/22 (100.00%)</b>	<b>19/22 (86.36%)</b>
<b>Gastrointestinal disorders</b>				
<b>diarrhoea *</b>				
<b># participants affected / at risk</b>	<b>1/21 (4.76%)</b>	<b>3/22 (13.64%)</b>	<b>5/22 (22.73%)</b>	<b>1/22 (4.55%)</b>
<b>nausea *</b>				
<b># participants affected / at risk</b>	<b>0/21 (0.00%)</b>	<b>4/22 (18.18%)</b>	<b>2/22 (9.09%)</b>	<b>0/22 (0.00%)</b>

<b>General disorders</b>				
<b>chills †</b>				
# participants affected / at risk	1/21 (4.76%)	2/22 (9.09%)	2/22 (9.09%)	2/22 (9.09%)
<b>Fatigue †</b>				
# participants affected / at risk	7/21 (33.33%)	11/22 (50.00%)	8/22 (36.36%)	7/22 (31.82%)
<b>injection site erythema †</b>				
# participants affected / at risk	3/21 (14.29%)	2/22 (9.09%)	2/22 (9.09%)	0/22 (0.00%)
<b>injection site induration †</b>				
# participants affected / at risk	3/21 (14.29%)	4/22 (18.18%)	3/22 (13.64%)	2/22 (9.09%)
<b>injection site pain †</b>				
# participants affected / at risk	17/21 (80.95%)	16/22 (72.73%)	21/22 (95.45%)	9/22 (40.91%)
<b>malaise †</b>				
# participants affected / at risk	4/21 (19.05%)	4/22 (18.18%)	5/22 (22.73%)	4/22 (18.18%)
<b>Infections and infestations</b>				
<b>nasopharyngitis *</b>				
# participants affected / at risk	4/21 (19.05%)	9/22 (40.91%)	5/22 (22.73%)	5/22 (22.73%)
<b>viral URTI *</b>				
# participants affected / at risk	2/21 (9.52%)	0/22 (0.00%)	0/22 (0.00%)	0/22 (0.00%)
<b>Musculoskeletal and connective tissue disorders</b>				
<b>arthralgia †</b>				
# participants affected / at risk	2/21 (9.52%)	0/22 (0.00%)	0/22 (0.00%)	0/22 (0.00%)
<b>myalgia †</b>				
# participants affected / at risk	5/21 (23.81%)	4/22 (18.18%)	4/22 (18.18%)	3/22 (13.64%)
<b>Nervous system disorders</b>				
<b>headache †</b>				
# participants affected / at risk	11/21 (52.38%)	11/22 (50.00%)	12/22 (54.55%)	10/22 (45.45%)
<b>Skin and subcutaneous tissue disorders</b>				

rash *				
# participants affected / at risk	0/21 (0.00%)	0/22 (0.00%)	2/22 (9.09%)	0/22 (0.00%)

† Events were collected by systematic assessment

\* Events were collected by non-systematic assessment

## ▶ Limitations and Caveats

▢ Hide Limitations and Caveats

**Limitations of the study, such as early termination leading to small numbers of participants analyzed and technical problems with measurement leading to unreliable or uninterpretable data**

No text entered.

## ▶ More Information

▢ Hide More Information

### Certain Agreements:

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

There **IS** an agreement between Principal Investigators and the Sponsor (or its agents) that restricts the PI's rights to discuss or publish trial results after the trial is completed.

The agreement is:

The only disclosure restriction on the PI is that the sponsor can review results communications prior to public release and can embargo communications regarding trial results for a period that is **less than or equal to 60 days**. The sponsor cannot require changes to the communication and cannot extend the embargo.

The only disclosure restriction on the PI is that the sponsor can review results communications prior to public release and can embargo communications regarding trial results for a period that is **more than 60 days but less than or equal to 180 days**. The sponsor cannot require changes to the communication and cannot extend the embargo.

Other disclosure agreement that restricts the right of the PI to discuss or publish trial results after the trial is completed.

**Restriction Description:** In the event that no publication of the Study results has been made by NVGH within twelve (12) months of Study

database lock and no proposed publication is under discussion by the publication committee, Principal Investigator may publish its own Study results.

**Results Point of Contact:**

Name/Title: Dr. Audino Podda

Organization: Novartis Vaccines Institute for Global Health

phone: +39 0577 243496

e-mail: [audino.podda@novartis.com](mailto:audino.podda@novartis.com)

**Publications of Results:**

van Damme P, Kafeja F, Anemona A, Basile V, Hilbert AK, De Coster I, Rondini S, Micoli F, Qasim Khan RM, Marchetti E, Di Cioccio V, Saul A, Martin LB, Podda A. Safety, immunogenicity and dose ranging of a new Vi-CRM<sub>197</sub> conjugate vaccine against typhoid fever: randomized clinical testing in healthy adults. PLoS One. 2011;6(9):e25398. doi: 10.1371/journal.pone.0025398.

Responsible Party: Novartis

ClinicalTrials.gov Identifier: [NCT01193907](#) [History of Changes](#)

Other Study ID Numbers: **H01\_04TP**

2010-021874-12 ( EudraCT Number )

Study First Received: September 1, 2010

Results First Received: March 6, 2012

Last Updated: December 16, 2013

Health Authority: Belgium: Federal Agency for Medicinal Products and Health Products