1. ***General information***

1.1. **European notification number*:*** B/IE/12/02

1.2. **Member State of notification:** Ireland

1.3. **Date of consent and consent number:** 10 April 2013, G0493-01

2. ***Report status:*** Final report.

3. ***Characteristics of the release***

3.1. **Scientific name of the recipient organism*:*** *Rhodococcus equi*

3.2. **Transformation events:** Deletion mutant

3.3. U**nique identifier:** *Rhodococcus equi* strain RG2837

3.4

Geographical location	*Size of the release site*	*Identity and number*	*Duration of the release*
Belmont Stud Farm Belmont, Co. Offaly Grid reference N53° 15.072 W007° 53.887	*1.11 Ha*	Of the 27 foals included in the study, 14 were vaccinated 4 times with a single dose of R. equi vaccine, 13 received placebo.	1st vaccination: 12 June 2013 Last vaccination: 5th of September 2013

4. ***Any kind of product that the notifier intends to notify at a later stage***

4.1. **Does the notifier intend to notify the released transformation events(s) as product(s) for placing on the market under Community legislation(s) at a later stage?**

Yes, through a central procedure, for all Member States.

For use as vaccine against *Rhodococcus equi* pneumonia in horses.

5. ***Type of deliberate release***

5.8. **Other type of deliberate release**

A clinical study to assess the safety and efficacy of Equilis RhodE under practical conditions. Such a study is required by EU regulations to obtain a marketing authorization.

6. ***Method(s), results of the release and monitoring measures in respect of any risk to human health or the environment.***

6.1. **Risk management measures.**

The risk management measures as described in the notification and the consent were all applied as planned, with exception of the additional twice monthly inspection of the farm. The farm staff, who were all well informed about the study, monitored the horses closely and visited all fields on a daily basis. They were instructed to report any abnormality immediately. The additionally planned monthly inspections were therefore considered superfluous.

6.1.6 *Other measures*

- The release site was well indicated with warning tape and notices.
- The study foals and their mares were kept in the release area after vaccination, where they had no contact with other horses.
- Foals (and their mares) were not allowed the leave the release area when they had been tested bacteriologically negative for the vaccine strain.
- Only authorized, healthy and well instructed personnel were allowed to enter the release site
- All personnel were trained in the hygiene protocols.
- Contaminated disposables, empty vaccine vials, manure and litter from the release area were removed and heat inactivated by SRCL Ltd.
- Other potentially contaminated materials, including boots and stable floors were disinfected with Steri7.

6.1.7 *Emergency plan*

a. The release proceeded as planned

b. No measures according to the emergency plan had to be taken

6.2. **Post release monitoring measures**

The study foals were monitored clinically for a period of approximately 5 months after last vaccination, when they had reached the age of 6 months. A lung scan was made every 2 weeks and the foals were clinically examined in case of disease.

6.3. **Plan for observations/ methods involved**

- During the 14 days after vaccination the study foals were clinically checked on a daily basis and the rectal temperature was measured for at least 4 days after each vaccination.
- The study foals were monitored clinically for a period of approximately 5 months after last vaccination, when they had reached the age of 6 months: a lung scan was made every 2 weeks and the foals were clinically examined in case of disease. The last clinical examinations were performed on the 19th of February 2014.

Regarding the SNIF, no modifications had to be made to intermediately change the planned observation methods.

6.4. **Observed effects**

6.4.2 *Expected effects.*

- No vaccine related side effects were observed in the study foals, which confirms the safety of the vaccine strain. The last clinical observations in the foals were made on the 19th of February 2014.
- Although the number of diseased foals (foals with evidence of lung abscesses) was lower than the previous year, the lung scan results gave no evidence of a reduction of foals with abscesses in the vaccinated group, compared to the control group.
- No effects on human health or the environment were observed.

6.4.3 *Unexpected effects.*

No unexpected effects were observed, neither on humans, animals or environment.

6.4.4 *Other information.*

The study blinding was removed after completion of the last cases. The unblinding did not reveal any (desirable) effect of the vaccine in the vaccinated foals, compared to the control group. It was the intention of MSD to continue the study in 2014 and 2015 but based on the interim analysis and the results of a second study in Germany, it was decided to terminate this study. Therefore, the number of foals in the study will not become higher than the 14 vaccinates and 13 controls already reported. During the course of 2014, no vaccinations were performed. The numbers of foals vaccinated, dates of vaccine administration, the batch number of the vaccine and the concentration of GMM dose administered to each foal is presented in Annex 1; individual data per foal.

6. ***Conclusions.***

The absence of vaccination reactions in the foals and of adverse effects on humans or the environment confirm the safety of Equilis RhodE, containing the *R. Equi* vaccine strain RG2837. No final conclusions can be drawn as to the efficacy of the vaccine, when used under the circumstances described.

ANNEX 1 INDIVIDUAL DATA PER FOAL

Table 1: vaccination dates and shedding test results

FOAL ID	TESTGROUP	Date Of Birth	AGE VAC 1	sample number	VAC 1	VAC 2	VAC 3	VAC 4	Date of Sampling	Days after last vaccination	Date test result 1	test result 1
A	Control	1-6-2013	11	1	12-6-2013	13-6-2013	26-6-2013	27-6-2013	10-07-2013	13	19-07-2013	negative
B	Vaccine	2-6-2013	10	2	12-6-2013	13-6-2013	26-6-2013	27-6-2013	10-07-2013	13	19-07-2013	negative
C	Control	5-6-2013	7	3	12-6-2013	13-6-2013	26-6-2013	27-6-2013	10-07-2013	13	19-07-2013	negative
D	Vaccine	5-6-2013	7	4	12-6-2013	13-6-2013	26-6-2013	27-6-2013	10-07-2013	13	19-07-2013	negative
E	Vaccine	8-6-2013	4	5	12-6-2013	13-6-2013	26-6-2013	27-6-2013	10-07-2013	13	19-07-2013	negative
F	Vaccine	11-6-2013	8	6	19-6-2013	20-6-2013	3-7-2013	4-7-2013	17-07-2013	13	22-07-2013	negative
G	Control	13-6-2013	6	7	19-6-2013	29-6-2013	3-7-2013	4-7-2013	17-07-2013	13	22-07-2013	negative
H	Control	15-6-2013	4	8	19-6-2013	29-6-2013	3-7-2013	4-7-2013	17-07-2013	13	22-07-2013	negative
I	Vaccine	17-6-2013	9	9	26-6-2013	27-6-2013	10-7-2013	11-7-2013	24-07-2013	13	30-07-2013	Inconclusive[1]
J	Control	17-6-2013	9	10	26-6-2013	27-6-2013	10-7-2013	11-7-2013	24-07-2013	13	30-07-2013	negative
K	Vaccine	17-6-2013	9	11	26-6-2013	27-6-2013	10-7-2013	11-7-2013	24-07-2013	13	30-07-2013	negative
L	Control	21-6-2013	5	12	26-6-2013	27-6-2013	10-7-2013	11-7-2013	24-07-2013	13	30-07-2013	Inconclusive[2]
M	Control	28-6-2013	5	13	3-7-2013	4-7-2013	17-7-2013	18-7-2013	31-07-2013	13	07-08-2013	negative
N	Control	26-6-2013	7	14	3-7-2013	4-7-2013	17-7-2013	18-7-2013	31-07-2013	13	07-08-2013	negative
O	Vaccine	4-7-2013	6	15	10-7-2013	11-7-2013	24-7-2013	25-7-2013	07-08-2013	13	14-08-2013	negative
P	Vaccine	5-7-2013	5	16	10-7-2013	11-7-2013	24-7-2013	25-7-2013	07-08-2013	13	14-08-2013	negative
Q	Vaccine	6-7-2013	4	17	10-7-2013	11-7-2013	24-7-2013	25-7-2013	07-08-2013	13	14-08-2013	negative
R	Vaccine	9-7-2013	8	18	17-7-2013	18-7-2013	31-7-2013	1-8-2013	14-08-2013	13	27-08-2013	negative
S	Control	9-7-2013	8	19	17-7-2013	18-7-2013	31-7-2013	1-8-2013	14-08-2013	13	27-08-2013	negative
T	Control	10-7-2013	7	20	17-7-2013	18-7-2013	31-7-2013	1-8-2013	14-08-2013	13	27-08-2013	negative

FOAL ID	TESTGROUP	Date Of Birth	AGE VAC 1	sample number	VAC 1	VAC 2	VAC 3	VAC 4	Date of Sampling	Days after last vaccination	Date test result 1	test result 1
U	Vaccine	10-7-2013	7	21	17-7-2013	18-7-2013	31-7-2013	1-8-2013	14-08-2013	13	27-08-2013	negative
V	Control	11-7-2013	6	22	17-7-2013	18-7-2013	31-7-2013	1-8-2013	14-08-2013	13	27-08-2013	negative
W	Control	16-7-2013	8	23	24-7-2013	25-7-2013	7-8-2013	8-8-2013	14-08-2013	6	27-08-2013	Inconclusive[3]
X	Vaccine	15-7-2013	9	24	24-7-2013	25-7-2013	7-8-2013	8-8-2013	14-08-2013	6	27-08-2013	negative
Y	Vaccine	3-8-2013	4	25	7-8-2013	8-8-2013	21-8-2013	22-8-2013	04-09-2013	13	10-09-2013	Inconclusive[4]
Z	Control	1-8-2013	6	26	7-8-2013	8-8-2013	21-8-2013	22-8-2013	04-09-2013	13	10-09-2013	negative
AA	Vaccine	16-8-2013	5	27	21-8-2013	22-8-2013	3-9-2013	4-9-2013	18-09-2013	14	30-09-2013	negative

Concentration GMO per vaccine dose: 5×10^{9} - 10^{11} CFU

Batchnumber 10E12

[1,2,3,4] Inconclusive results 1,2,3,4 were retested. Results given below

Table 2: retest results:

ID_FOAL	TSTGRP	Date retest result	Retest result	Remarks
I	Vaccine	2-8-2013	negative	Additional PCR performed
L	Control	2-8-2013	negative	Additional PCR performed
W	Control	2-9-2013	negative	Additional PCR performed
Y	Vaccine	16-9-2013	negative	Additional culturing test performed

All foals left the release site only after the faeces sample was confirmed negative