

PRESENTATION OF THE FINAL RESULTS OF DELIBERATE RELEASE INTO THE ENVIRONMENT OF GENETICALLY MODIFIED ORGANISMS

IN ACCORDANCE WITH ARTICLE 10 OF DIRECTIVE 2001/18/EC

The final report format shall be completed by the notifier.

- The notifier shall fill in the report format according to the proposed form.
- The notifier shall illustrate as much as possible the reported data by means of diagrams, figures and tables.
- Statistical data could also be provided where relevant.
- In the case of multi-sites and/or multi-events release(s) the notifier shall provide a general overview of the measures taken and effects observed for the full duration of the consent.
- The space provided after each item is not indicative of the depth of the information required for the purposes of this report.
- The information provided in this report is not considered confidential in accordance with Article 25 of Directive 2001/18/EC.

1. General information

- 1.1. European notification number:** B/NL/14/006
Number can be found on the corresponding SNIF form (i.e. year and number, B/NL/xx/xxx)
- 1.2. Member State of notification:** The Netherlands
- 1.3. Date of consent:** July 1, 2015
Date of issue of permit
- 1.4. Title of the project:** A phase I/II, open-label, uncontrolled, single-dose, dose ascending, multi-centre trial investigating the safety and efficacy of an adeno-associated viral vector containing a codon optimized human factor IX gene(AAV5-hFIX) administered to adult patients with severe or moderately severe haemophilia B.
- 1.5. Name of institution or company:** Academic Medical Center
i.e. legal entity = notifier
- 1.6. Duration of release:** 2015
- 1.7. Period of release:** 2015

2. Characteristics of the release

2.1. Scientific name of the recipient organism:	Homo sapiens
2.2. Transformation event(s) (acronym(s)) or vectors used: <i>Describe the GMO(s) and/or vector(s) and insert(s) used for the modification</i>	AAV5-hFIX
2.3. Unique identifier, if available: <i>i.e. product name or GMO name</i>
2.4. Geographical location(s) (administrative region):	Amsterdam, The Netherlands
2.5. Number of test subjects:	1
2.6. Amount of GMO administered to each test subject:	single dose of 5x10E12 gc/kg
2.7. Number of administrations per test subject:	1

3. Risk management measure(s)

Please report the risk-management measures used to avoid or minimize the spread of the GMO(s) outside the site(s) of release, and in particular those measures

- *not originally notified in the application,*
- *applied in addition to the conditions in the consent.*
- *required by the consent only under certain conditions,*
- *that the consent allowed the notifier a choice of measures.*

Answer: No additional measures on top of the application and consent were taken. The environmental risk assessment scored the study as negligible.

4. Post-release monitoring measures

Please describe here any monitoring strategies.

Answer: After administration of the medicinal product, a barrier contraceptive was obligatory until 3 consecutive sperm samples were negative for the presence of AAV5-hFIX vector DNA.

5. Results of the foreseen and unforeseen release(s)

Consider in the following questions 5.1 through 5.4 all results of the foreseen and unforeseen release(s) in respect of any risk for human health or the environment, without prejudice to whether the results indicate that any risk is increased, reduced or remains unchanged.

5.1. Results of the study

Provide a summary of the study results in respect of any risk for human health or the environment. Include also the results of the monitoring measures (if applicable).

Answer: Administration of the gmo resulted in increased factor IX levels allowing the discontinuation of the weekly factor IX infusions to prevent bleeding.

5.2. Unexpected effect(s) and adverse effects

'Unexpected effects' refer to effects on human health or the environment, which were not foreseen or identified in the environmental risk assessment of the notification. This part of the report should contain any information with regard to unexpected effects or observations relevant for the initial environmental risk assessment. In case of any observed unexpected effects or observations, this section should be as detailed as possible to allow a proper interpretation of the data.

Answer: No unexpected effects were reported.

5.3. Unintended release of the GMO

'Unintended releases' refer to any incidents or spills with regard to the GMO that occurred during the study, where possible effect(s) on human health and/or the environment cannot be excluded. Describe these effects, including actions taken to manage the risks.

Answer: No unintended release of the gmo occurred.

5.4. Other information

Notifiers are encouraged to supply information, which is outside the scope of the notification but which might be relevant to the trial(s) in question. This may also include observations of beneficial effects.

Answer: We have no available information to this effect. Results of the trial have been published in Blood 2018 131(9) by Miesbach et al

6. Assessment of risk following completion of release

Please provide a reflection of the risk assessment and risk management strategies carried out prior to the release in relation to the obtained results and findings of for instance monitoring and samples taken from the test subjects. Do the results of the study justify the performed environmental risk assessment and conclusion?

Answer: the results justify the performed environmental risk assessment and conclusion.

7. Conclusion

Here the notifier should elaborate on the efficacy and efficiency of all measures taken, and elaborate on the insights gained during this release. Also, specify how the gain in experience can benefit further (future) releases with respect to risk management.

Answer: the results are in accordance with the expectations. The risk of negative environmental side effects occurring is extremely low and as the vector is replication deficient and AAV is an apathogenic virus currently classified as a pathogenicity risk class-1 organism, the environmental risk assessment considers the environmental risk as negligible. We consider this assessment as completely justified.