About the Orphan Drug Designation Request Template

The following document has been generated based on National Institutes of Health (NIH) National Center for Advancing Translational Sciences (NCATS) Platform Vector Gene Therapy (PaVe-GT) team’s experience for preparing an Orphan Drug Designation (ODD) request to the U.S. Food and Drug Administration (FDA) Office of Orphan Products Development.

PaVe-GT is a pilot project that will test whether the efficiency of gene therapy trial startup can be significantly improved by using certain standardized processes across gene therapies for four different rare diseases. An important goal of PaVe-GT is to share project results and lessons learned with the public in such a way that the information is useful to any party interested in developing a gene therapy efficiently. Specifically, we will make information and results from the PaVe-GT program publicly available in as timely a manner as possible. This includes toxicology and biodistribution data, Investigational New Drug filings and communications with the FDA, and other study documents. To ensure access to the latest learnings, please visit the PaVe-GT website, subscribe to project updates, and explore the full set of available resources at [pave-gt.ncats.nih.gov](http://pave-gt.ncats.nih.gov/).

This template is a tool that may be used by interested investigators to develop their own ODD requests for gene therapy products. Using this template may help increase the efficiency of the preparation of regulatory documentation. A white paper [Successfully Navigating FDA Orphan Drug and Rare Pediatric Disease Designations for AAV9-hPCCA Gene Therapy: The NIH Pave-GT Experience](https://doi.org/10.1089/hum.2022.232) that describes in detail the “how to” of creating an ODD application was recently published in Human Gene Therapy. We encourage the readers to read the white paper prior to initiating the ODD application preparation using the template. We further direct all users to consult the FDA website for most up to date information.

*Instructions:* This template includes a cover page, table of contents, list of abbreviations, nine content sections, and an appendix which include both regular, and italicized text in brackets. Please carefully review each section and replace text with the information indicated in italics and brackets. The regular text may be kept as is. Where relevant, sections of the template also contain text in rectangular boxes providing a section overview and instructions. Kindly remove these boxes and accompanying text prior to submitting the rare pediatric disease designation request.

*Disclaimer:* NCATS and NIH provides no warranties, representations or guarantees that PaVe-GT Resources will work for any given project or disease condition. Further, NIH disclaims any liability and provides no indemnification. For a full list of terms and conditions for use of PaVe-GT resources, visit [pave-gt.ncats.nih.gov](http://pave-gt.ncats.nih.gov).

[Insert Sponsor Name]

[Insert Investigational Product]

Orphan Drug Designation Request

[Insert Date]

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This document and its contents are the property of and confidential to *[insert sponsor name].* Any unauthorized copying or use of this document is prohibited.

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List of Abbreviations

*[Include list of abbreviations]*

1. Orphan Drug Designation Request Statement

The Orphan Drug Designation Request Statement section includes a statement from the sponsor requesting orphan-drug designation for rare disease or condition (~up to 1 page).

Instructions: Replace text with the information indicated in italics in brackets. Kindly remove this boxed section prior to submission.

Pursuant to 21 CFR 316.20, *[Insert Sponsor]* requests designation of *[Insert investigational drug product name]* as an orphan drug product for treatment of patients with *[Insert proposed indication]*

*[Insert an overview of the rare disease or condition including the cause and the manifestations (Detailed description will be included in Section 3)]*

*[Provide the final population estimate (prevalence or incidence, as applicable, including a summary of how the number was determined to qualify it to be a rare disease or condition as suggested by FDA guidelines (Detailed description will be included in Section 8)]*

1. Administrative Information

The Administrative Information section includes the contact information of the sponsor, primary and alternate person(s), and the regulatory agent. The drug name, including the chemical name of the drug substance and the generic or a meaningful description of the drug product. Manufacturer name, address and FDA Establishment Identifier (FEI) number (if available) information for both the drug substance and the drug product.

Instructions: Replace text with the information indicated in italics in brackets. Kindly remove this boxed section prior to submission.

* 1. Sponsor

*[Insert Sponsor’s name and address]*

* 1. Primary and Alternate Contacts

Primary Contact

*[Insert name of the sponsor’s primary contact person, including title, address, telephone number, and email address]*

Alternate Contact

*[If available, insert name of the sponsor’s alternate contact person, including title, address, telephone number, and email address]*

* 1. Regulatory Agent

*[If available, insert name of the sponsor’s regulatory agent, including title, address, telephone number, and email address]*

* 1. Drug Name
     1. Chemical Name - Drug Substance

*[Insert chemical name of drug substance]*

* + 1. Generic/Trade Name - Drug Product

*[Insert generic/trade name, or meaningful descriptive name of the drug product; Detailed description will be included in Section 4.1.1]*

*[Insert diagram or schematic of drug product]*

* 1. Manufacturer’s Name and Address
     1. Drug Substance Manufacturer

*[Insert name and address of the drug substance manufacturer including the FEI number, if available]*

* + 1. Drug Product Manufacturer

*[Insert name and address of the drug product manufacturer including the FEI number, if available]*

1. Description of Rare Disease or Condition, Proposed Indication, and Need for Therapy

Description of Rare Disease or Condition, Proposed Indication, and Need for Therapy section includes a description of the rare disease or condition, proposed indication and use, and the reasons why the therapy is needed. All information in this section must be supported by relevant references.

Instructions: Replace text with the information indicated in italics in brackets. Kindly remove this boxed section prior to submission.

* 1. Description of Rare Disease or Condition

*[Insert description of the rare disease or condition. Description can include molecular etiology; clinical manifestations; pathophysiology; natural history information]*

* 1. Proposed Indication and Use of [Insert Investigational Product]

*[Insert proposed use/indication of the drug including the proposed mechanism of action]*

* 1. Reasons Why Such Therapy Is Needed

*[Insert reasons why the proposed therapy is needed. Examples of reasons could include debilitating nature or complexity of disease, lack of treatment, unavailability of specialists, and other disease specific issues]*

1. Description of *[Insert Investigational Product]* and Scientific Rationale for Use

Description of investigational product and scientific rationale for use section includes a description of the investigational drug product including the active ingredient, drug class, structure, physical and chemical properties, mechanism of action, and route of administration, and any accompanying schematics.

Discussion of scientific rationale establishing a reasonable premise for use of the therapy for the rare disease or condition, including relevant data from in vitro, preclinical efficacy, and/or clinical studies. (Note: Clinical data is not necessary and only non-clinical in vivo data showing prospect of benefit can be used. In cases, when no relevant animal model exists for disease and when there is no clinical data, in vitro data may be used with a clear explanation of how it relates to the disease).

Important to note that safety or pharmacology/toxicology studies are not relevant to the scientific rationale to support the ODD request.

Instructions: Replace text with the information indicated in italics in brackets. Kindly remove this boxed section prior to submission.

* 1. Description of [Insert Investigational Product]
     1. Drug Product Naming Convention

*[Insert investigational product naming convention]*

* + 1. Drug Product Physical, Chemical, and Pharmaceutical Properties

*[Insert description of drug product. Relevant information to include structure, formula, molecular weight and other physico-chemical properties*

*\*For an AAV gene therapy product, describe vector design, including schematic, elements and attach map/sequence as an appendix**]*

* + 1. Drug Product Description, Mechanism of Action and Route of Administration

*[Insert drug product description, including formulation details, mechanism of action and route of administration].*

* 1. Scientific Rationale for the Use of *[Insert Investigational Product]* in the Rare Disease or Condition

*[Insert discussion of scientific rationale to establish a medically plausible basis for the use of the drug for the rare disease or condition].*

* + 1. Clinical Efficacy of [Insert Investigational Product]

*[Insert discussion on clinical efficacy studies and relevant data if available].*

* + 1. Nonclinical Efficacy of [Insert Investigational Product]

*[Insert discussion on non-clinical efficacy studies and relevant data. Relevant data to include:*

* *Animal models generated*
* *Results generated from in vitro and in vivo studies showing efficacy with the use of the mentioned investigational product*

***Note:*** *The description should include a summarized methodology, results in the form of figures and tables (along with a legend). Any referenced articles to support the findings are helpful to include].*

1. Orphan Drug Status

The Orphan drug status section includes the current orphan drug status of the investigational drug product.

Instructions: Replace text with the information indicated in italics in brackets. Kindly remove this boxed section prior to submission.

*[Insert orphan drug status of the investigational product. In certain cases, this section may need to include an explanation of why the proposed investigational drug product may be clinically superior to an already approved drug if seeking orphan drug designation for an investigational drug product for a disease that is already an approved drug or product for the same rare disease or condition].*

1. Patient Subset Considerations and Medical Plausibility of the Chosen Subset

Patient Subset Considerations and Medical Plausibility of the Chosen subset section includes an explanation of orphan drug designation request for the investigational drug for only an orphan subset.

Instructions: Replace text with the information indicated in italics in brackets. Kindly remove this boxed section prior to submission.

*[Provide an explanation why the drug is only for an orphan subset and demonstrate the remaining persons with the disease would not be a good candidate because of one or more properties of the drug.*

*If orphan subset is not applicable for the investigational drug, provide statement, as appropriate].*

1. Regulatory Status and Marketing History

Regulatory Status and Marketing History section includes an explanation of the current regulatory status of the investigational product and its marketing status worldwide.

Instructions: Replace text with the information indicated in italics in brackets. Kindly remove this boxed section prior to submission.

[Insert summary of regulatory status and marketing history of the investigational drug product in the United States and in foreign countries.

**Regulatory status:** Content may include any previous interactions with the FDA (such as INTERACT meeting, pre-IND, IND, BLA, others). If no prior interactions, this should be clarified as well.

**Marketing History:** Include information of marketing applications and their status. If not available, state the same].

1. Documentation of Patient Population Size

Documentation of Patient Population Size section includes information with references, demonstrating that the patient population size of the proposed disease or condition, for whom the investigational drug product is intended, is fewer than 200,000 in the United States.

Instructions: Replace text with the information indicated in italics in brackets. Kindly remove this boxed section prior to submission.

*Insert summary of rare disease or condition and patient population size including information of steps followed to determine the same and supporting references from literature. Content to include:*

* *Sources used to gather information (published literature, population surveys, regional disease estimates or data repositories, patient registries, population surveys, newborn screening reports, patient foundation databases, good faith estimate from clinicians, etc.)*
* *Prevalence or incidence, as appropriate, and the method of estimation (Prevalence is defined as the number of persons in the US who have been diagnosed as having the disease or condition at the time of the submission of the request. For a disease or condition with an acute onset (i.e., less than 1-year duration), such as rare infections, poisonings, or exposures (e.g., snake bites), incidence estimates can be used. Incidence is defined as the occurrence of new cases of disease or injury in a population over a specified time)*
* *Tabulated summary of documentation/references to support patient population size].*

1. References

*[Insert list of references used throughout the application; full text references may be included as an appendix, but is not mandatory]*

# Appendix *[X]*

*[Insert additional information (Examples: additional information about the investigational drug product, details related to data presented, population estimate related details, any other information of relevance).]*