

MEMORANDUM

**DEPARTMENT OF HEALTH AND HUMAN SERVICES
FOOD AND DRUG ADMINISTRATION
CENTER FOR DRUG EVALUATION AND RESEARCH
OFFICE OF BIOTECHNOLOGY PRODUCTS**

Date: April 24, 2020
From: Stephanie Fish
OBP/OPQ/CDER
Subject: Memorandum of Need
To: Office of Acquisitions and Grants Services

Identification Number:

STATEMENT OF WORK

Title: Creation of Rfwd2-targeted Embryotic Stem Cell Lines

A. Scope of Work

The FDA requires services capable of fulfilling needs within the Center for Drug Evaluation and Research (CDER), Office of Biotechnology Products (OBP). These needs are associated with regulatory science research programs supporting OBP's mission.

B. Statement of Need

The mission of the Office of Biotechnology Products is to protect public health by assuring the quality, safety, efficacy, availability and security of therapeutic protein and monoclonal antibody products. OBP conducts research to address current unmet needs related to regulatory issues in OBP or FDA and to anticipate future regulatory issues. In order to accomplish such research, the FDA requires the creation of a conditional *Rfwd2* knockout mouse model using targeted embryotic stem (ES) cell lines that we will supply to the contractor. This mouse model will be used to test the function of monoclonal antibody products in vivo.

C. REQUIREMENTS/DELIVERABLES

Quantity	Type	Specifics
3 pairs of breeding mice	<i>Rfwd2</i> -floxed heterozygous female mice and <i>Rfwd2</i> -floxed homozygous	C57BL/6 Background with <i>Rfwd2</i> gene floxed and deletion of the Neomycin

	male mice	cassette.
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Contractor must provide genetic evidence that the conditional knockout mice have been successfully created. Upon receipt of the mice at the Agency, we will then further breed them with Cre-expressing mouse lines to generate tissue-specific *Rfwd2* knockout mouse models.

D. SALIENT CHARACTERISTICS

The FDA is seeking a contractor that has the capability to produce a mouse line from *Rfwd2*-targeted ES cells that will be provided by us. *Rfwd2*-targeted mouse ES cell lines were generated on C57BL/6 background. The *Rfwd2*-targeted ES cell line will be used for blastocysts injection and chimeric mouse generation. The Neomycin cassette in the chimeric mice will be deleted by breeding the chimera with FLP deleter strain on C57BL/6 background. We require three pairs of breeding mice with the following characteristics:

- On C57BL/6J mouse background
- With *Rfwd2*-floxed homozygous for male mice and heterozygous for female mice
- Can be used for breeding to generate mouse lines with tissue-specific deletion of *Rfwd2* gene

E. OVERVIEW OF DELIVERABLES

The conditional *Rfwd2* knockout mouse line will be created by the contractor. The mouse line will be generated by injection of *Rfwd2*-targeted ES cell lines into blastocysts, generation of chimeric mouse, removal of neomycin cassette by breeding the chimera to FLP deleter strain and generation of *Rfwd2*-floxed homozygous male mice and heterozygous female mice.

Contractor will also provide documentation on the methods and processes used to achieve the final product and all other supporting technical data; to include methods used to confirm knockout of the desired gene.

F. Place of Performance/ Shipment

TPOC: Dr. David Frucht
10903 New Hampshire Ave.
Bldg 52/72, Rm 2380
Silver Spring, MD 20903

G. PERIOD OF PERFORMANCE AND PAYMENTS

Deliverables are required within 9 months of contract award. Payment will be made upon completion of period of performance.

H. Acceptance Criteria

Experimentally mice will be confirmed upon receipt at FDA lab by POC.

I. RESPONSIBILITIES

- Contractor will provide monthly progress reports to the Contracting Officer Representative (COR) via email
- All shipments sent with fastest possible delivery (e.g. same day, overnight, etc.)
- Delivery must be made on a weekday (Monday-Friday) before 5 pm EST
- Shipping costs for ES cell line and mouse line deliveries are included in contract price

Suggested Sources

(These items will be updated once Weiming completes IGCE cost estimates)

genOway Inc.
69362 Lyon cedex 07
France

The Jackson Laboratory
600 Main Street
Bar Harbor, ME 04609

Taconic Biosciences
Five University Place
Rensselaer, NY 12144

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