The Telethon Foundation's commitment to research on rare diseases.

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Mary 17, 2025

Fondazione Telethon – Our mission and Vision

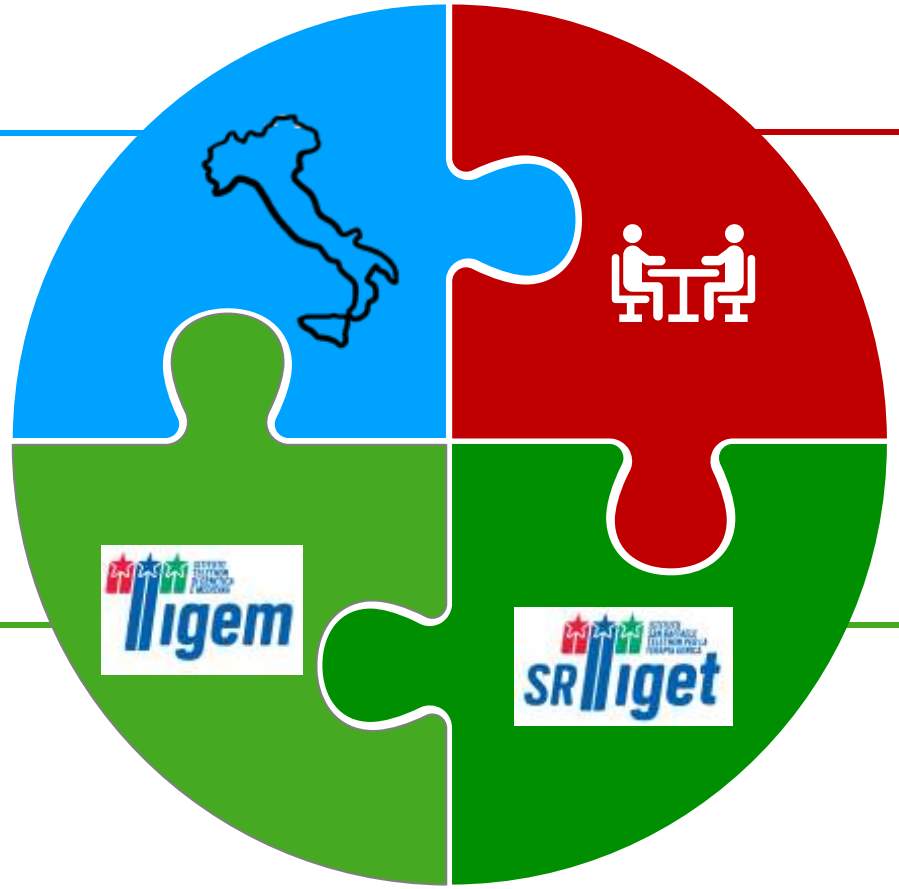
OUR MISSION

To advance biomedical research toward the treatment of rare genetic diseases

OUR VISION

To turn the results of excellent scientific research into treatments that are accessible to all patients

Fondazione Telethon - Research Portfolio



ExtraMural research

<u>Competitive</u> peer reviewed calls (alone or co-funded)

i.e.: Multiround Call, FT-FC Call, Seed Grant Call...

Special Projects

Peer-reviewed (ad hoc) initiatives

i.e.: Undiagnosed Disease Program (TUDP), Telethon Network of Genetic Biobanks (TNGB), Program Project, Registries...

TIGEM

Telethon Institute of Genetics and Medicine (Pozzuoli, Naples)

***Fully* supported** peer-reviewed Research Institute focused on understanding the mechanisms of genetic diseases and developing therapeutic and preventive strategies

San Raffaele - TIGET

San Raffaele - Telethon Institute for Gene Therapy (Milan)

Supported in ***joint venture* with SR-Hospital** peer-reviewed Research Institute focused on performing cutting-edge research on gene and cell therapy and translating results into therapeutic advances for genetic diseases

IntraMural research

<u>NON-competitive</u> peer reviewed programs

Strategic and investment model

Basic research	Pre-clinical studies	Pre-clinical development	Clinical trials	Marketing authorization	Delivery to Patients

Selection of excellent research
(quality-certified peer review method)

Implementation of specific competencies:
technology transfer, IP protection, regulatory affairs, clinical development…

Gene therapies approved for:

Severe combined immunodeficiency due to adenosine deaminase deficiency (**ADA-SCID**)

Metachromatic leukodystrophy (**MLD**)

Development of specific expertise in marketing authorization

Partnerships with companies and venture capitalists

FONDAZIONE TELETHON - PEER REVIEW

Key players in the peer review process

Fondazione Telethon peer review process is modelled on the system used by the National Institutes of Health (NIH) and it is Quality certified. This process is based on two players with fundamental, separate roles:

- **Research Program Managers** (RPMs) manage the entire process, from preparing the call for proposals to submitting the final review report on the evaluation procedure. They are responsible for selecting the reviewers with the best expertise in each research field, i.e., the scientists who will evaluate the projects, and for organizing evaluation sessions;

- **the Scientific Medical Committee** (SMC) plays a key role in Fondazione Telethon evaluation process, with the support of two external reviewers selected specifically for each research project.

The stages of the evaluation process:

- **TRIAGE** - This initial assessment is performed by the members of the Medical and Scientific Committee to evaluate the scientific merit of the projects. Three members of the SMC are assigned to each project and according to their scores the projects are then ranked. Only top-ranking ones proceed in the selection process.

- **FULL REVIEW** - projects are evaluated by three members of the MSC with the support of external reviewers.

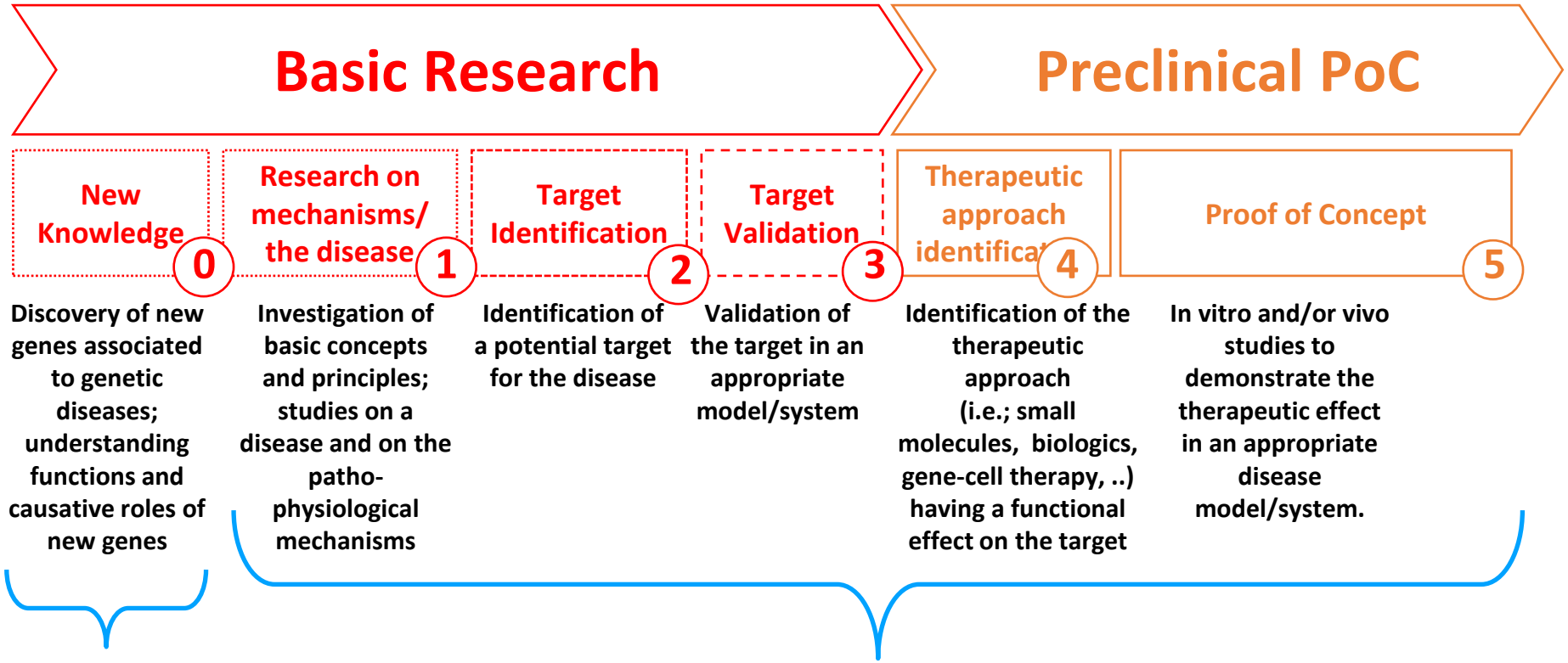
- **STUDY SECTION** - The final decision to fund projects is made during the plenary meeting of the Medical and Scientific Committee. In addition to scientific merit, which is the main evaluation criterion, the Committee also considers the direct or potential impact of the proposed projects on patients' quality of life.

- **FUNDS APPROVAL** - The Board of Directors of Telethon Foundation meets to allocate funds, following the ranking suggested by the Medical and Scientific Committee, in line with the available budget.

Fondazione Telethon – Peer Review

FONDAZIONE TELETHON - CALLS

The Fondazione Telethon development pathway of new therapies



Fondazione Cariplo – Fondazione Telethon Joint Call

“This call is in support of basic research projects focusing on the study of genes/gene families, mRNA and proteins whose function is unknown in rare diseases of genetic (both monogenic and polygenic) and non-genetic origin.”

IDG
ILLUMINATING the DRUGGABLE GENOME

Target Development Level (TDL)

Tdark **Tbio** **Tchem** **Tclin**

3 calls	59 projects	81 diseases	13,7 Million
2021 to date	Funded	study	invested

Multiround Call in partnership with FRRB

Track BASIC RESEARCH

Research focus

(TDP - step 1) Identification of basic concepts and principles; studies on a disease and the pathophysiological mechanisms.

(TDP - step 2) Identification of a potential druggable disease target (in this context "druggable" is defined as the ability of a target to be modulated by a therapeutic approach). The target has a key role in the disease process and its pharmacological or genetic modulation could be beneficial for patients.

(TDP - step 3) Validation of the target in an appropriate model/system.

Expected deliverables:

Disease mechanism/s clarified, and/or disease target/s identified; intellectual property (if available) covered.

Track PRECLINICAL PROOF OF CONCEPT

Research focus

(TDP - step 4) Identification of the therapeutic approach (i.e., small molecules, biologics, advanced therapy...) having a functional effect on the target.

(TDP - step 5) In vitro and/or in vivo studies demonstrating the therapeutic effect in an appropriate disease model/system.

Expected deliverables:

Therapeutic candidate/s identified and/or validated; intellectual property (if available) covered.

4 calls
2021 to date

117 projects
Funded
Basic: 84
POC: 33

114 diseases
study

20 Million
invested

Seed Grant Calls

ASSOCIAZIONI IN RETE
FONDAZIONE TELETHON

- Initiative started in 2019 to support the Italian Patient Organisations who want to invest their funds in research
- Fondazione Telethon applies its robust peer-review method for project evaluation based on scientific excellence and manages the funds of the awarded grants.

1 pilot + 9 rounds 2019 to date	**77 projects** funded	**36 diseases** studied	**45 Patient Organizations** involved	**3. 9 Million €** invested

ERDERA JOINT TRANSNATIONAL CALL 2024

ERDERA
European Rare Diseases Research Alliance

Call focused on **preclinical studies** to develop therapies based on small molecules, small non-coding chemically synthesized nucleic acid-based therapies, repurposed drugs or biologicals (e.g., antibodies or proteins such as enzymes, immune modulators or growth factors etc.).

Proposals must cover at least two of the following areas:

- development of novel therapies in a pre-clinical setting
- development of predictive and pharmacodynamics biomarkers
- replication of pre-clinical studies in an independent lab to increase validity of exploratory findings
- pre-clinical proof of concept studies for evidence of pharmacological activity in vitro and in vivo, pharmaco-kinetics and pharmaco-dynamics of the investigational drug and first toxicology and safety data as well as studies to support readiness for initiating clinical trial authorization conforming to regulatory requirements

183 LOI proposals
received –
under evaluation

50 projects
with Fondazione Telethon
as funding agency

7 Patient Associations
involved in the Fondazione Telethon-related proposals

up to 1 Million €
made available by Fondazione Telethon

EHLERS DANLOS SYNDROME – PROJECTS FUNDED

Ehlers Danlos Syndrome

Thanks to the efforts of Fondazione Telethon, 3 research projects that also study Ehlers-Danlos Syndrome have been funded over the years:

2 projects (closed one in 2019 and one in 1997) - investment of about 400,000 euros
Focused on understanding the molecular mechanisms underlying diseases due to defect in protein production and elimination, including some forms of Ehlers-Danlos

1 active project focused on understanding the molecular mechanisms underlying diseases due to defects in protein production and elimination - Osteogenesis Imperfecta, Ehlers-Danlos and MPS7
Investment of about 440,000 euros

Through the Seed grants initiative, sponsored by Fondazione Telethon and the Patient Association “Con Giacomo contro la syndrome di Ehlers Danlos” , five specific projects on vascular Ehlers-Danlos were funded:

4 projects funded by the Patient Association “Con Giacomo contro la syndrome di Ehlers Danlos”, investment of about 200,000 euros

1 FT-funded project, 50,000 euro investment

FONDAZIONE Telethon

THANK YOU!!!