

# Clinical Trials Update

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**⚠ IMPORTANT:** Listing of a study on this site does not reflect endorsement by the National Institutes of Health. Talk with a trusted healthcare professional before volunteering for a study. [Read more...](#)

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ClinicalTrials.gov is a registry and results database of publicly and privately supported clinical studies of human participants conducted around the world.

**Search** (all fields optional)

(all fields optional)

## Mitochondrial disease

e.g., NCT number, drug name, investigator name

X

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### Recruiting Study Locations



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### For Study Record Managers

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Status

Studies:

☐ Not yet recruiting

☐ Recruiting

☐ Enrolling by invitation

☐ Active, not recruiting

☐ Suspended

☐ Terminated

☐ Completed

☐ Withdrawn

☐ Unknown status†

Expanded Access:

Eligibility Criteria

Age:

years OR

Group:

☐ Child (birth–17)

☐ Adult (18–65)

☐ Senior (66+)

Sex:

☒ All

☐ Female

☐ Male

☐ Accepts Healthy Volunteers

Study Type

Study Results

Row	Saved	Status	Study Title	Conditions	Interventions
1	<input type="checkbox"/>	Terminated	<a href="#">Anesthetic Effects in Mitochondrial Disease</a>	Mitochondrial Disease	Drug: sevoflurane
2	<input type="checkbox"/>	Completed	<a href="#">Glycemic Index in Mitochondrial Disease</a>	Mitochondrial Diseases	Other: test meal
3	<input type="checkbox"/>	Recruiting	<a href="#">Anesthesia in Patients With Mitochondrial Disease</a>	Mitochondrial Diseases	Drug: Sevoflurane; Drug: Dexmedetomidine; Drug: Propofol
4	<input type="checkbox"/>	Recruiting	<a href="#">Magnetic Resonance Imaging (MRI) Muscle Phenotyping in Mitochondrial Disease</a>	Mitochondrial Disease	
5	<input type="checkbox"/>	Completed <a href="#">Has Results</a>	<a href="#">Phase III Trial of Coenzyme Q10 in Mitochondrial Disease</a>	Mitochondrial Diseases	Drug: CoenzymeQ10; Drug: Placebo
6	<input type="checkbox"/>	Enrolling by invitation	<a href="#">Open-Label Extension Trial to Characterize the Long-term Safety and Tolerability of Elamipretide in Subjects With Genetically Confirmed Primary Mitochondrial Disease (PMD)</a>	Primary Mitochondrial Disease	Drug: elamipretide
7	<input type="checkbox"/>	Completed	<a href="#">Survey on Supplement Use in Mitochondrial Disease</a>	Mitochondrial Disease	
8	<input type="checkbox"/>	Completed	<a href="#">Calf Muscle Strength in Mitochondrial Diseases</a>	Mitochondrial Disease	Other: MRI and muscle dynamometer
9	<input type="checkbox"/>	Completed	<a href="#">A Long-Term Extension Study of RP103-MITO-001 (NCT02023866) to Assess RP103 in Children With Inherited Mitochondrial Disease</a>	Mitochondrial Diseases	Drug: Cysteamine Bitartrate Delayed-release Capsules
10	<input type="checkbox"/>	Recruiting	<a href="#">The Effect of Arginine and Citrulline Supplementation on Endothelial Dysfunction in Mitochondrial Diseases</a>	Mitochondrial Diseases	Dietary Supplement: Arginine; Dietary Supplement: Citrulline

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we will be updating this site in phases. This allows us to move faster and to deliver better services.

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Trial record 6 of 185 for: mitochondrial disease

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Open-Label Extension Trial to Characterize the Long-term Safety and Tolerability of Elamipretide in Subjects With Genetically Confirmed Primary Mitochondrial Disease (PMD)

This study is enrolling participants by invitation only.

Sponsor:  
Stealth BioTherapeutics Inc.

Information provided by (Responsible Party):  
Stealth BioTherapeutics Inc.

ClinicalTrials.gov Identifier:  
NCT02976038

First received: November 18, 2016

Last updated: March 1, 2017

Last verified: March 2017

[History of Changes](#)

Full Text View

Tabular View

No Study Results Posted

Disclaimer

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How to Read a Study Record

► Purpose

This is a Phase 2 Open-Label extension study to evaluate the long term safety and tolerability of daily elamipretide injections in patients with genetically confirmed Primary Mitochondrial Disease who previously participated in the SPIMM-202 Clinical Trial

Condition	Intervention	Phase
Primary Mitochondrial Disease	Drug: elamipretide	Phase 2

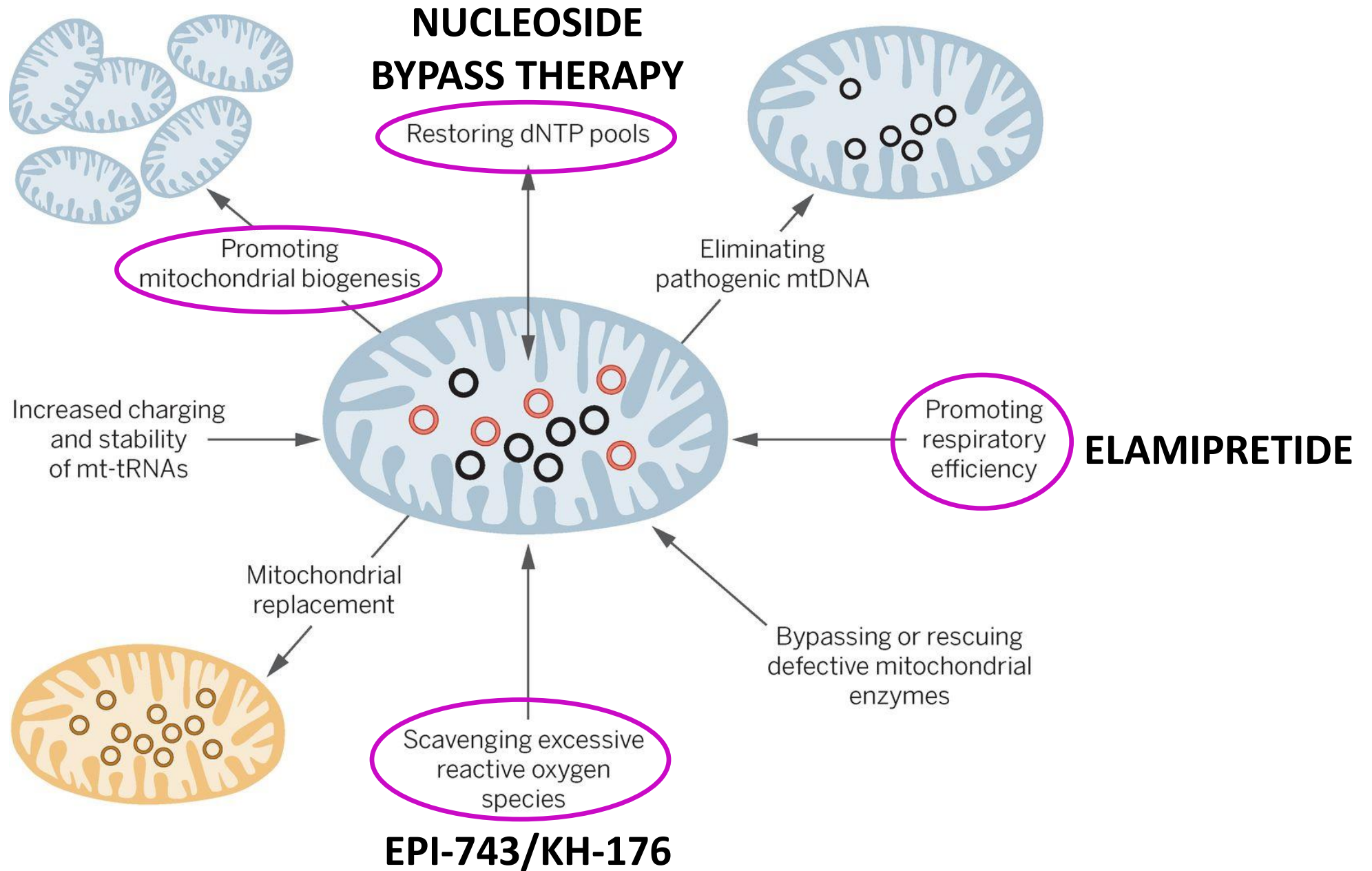
Study Type: Interventional

Study Design: Intervention Model: Single Group Assignment

Masking: None (Open Label)

Primary Purpose: Treatment

**BEZAFIBRATE/  
OMAVELOXONE**





This site became the new ClinicalTrials.gov on June 19th. [Learn more.](#)

We will be updating this site in phases. This allows us to move faster and to deliver better services.

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## EPI-743 for Metabolism or Mitochondrial Disorders

**This study is currently recruiting participants.**

See [▶ Contacts and Locations](#)

*Verified June 16, 2017 by National Institutes of Health Clinical Center (CC) ( National Human Genome Research Institute (NHGRI) )*

### Sponsor:

National Human Genome Research Institute (NHGRI)

### Information provided by (Responsible Party):

National Institutes of Health Clinical Center (CC) ( National Human Genome Research Institute (NHGRI) )

**ClinicalTrials.gov Identifier:**  
NCT01642056

First received: July 14, 2012  
Last updated: June 30, 2017  
Last verified: June 16, 2017

[History of Changes](#)

Full Text View

Tabular View

No Study Results Posted

Disclaimer

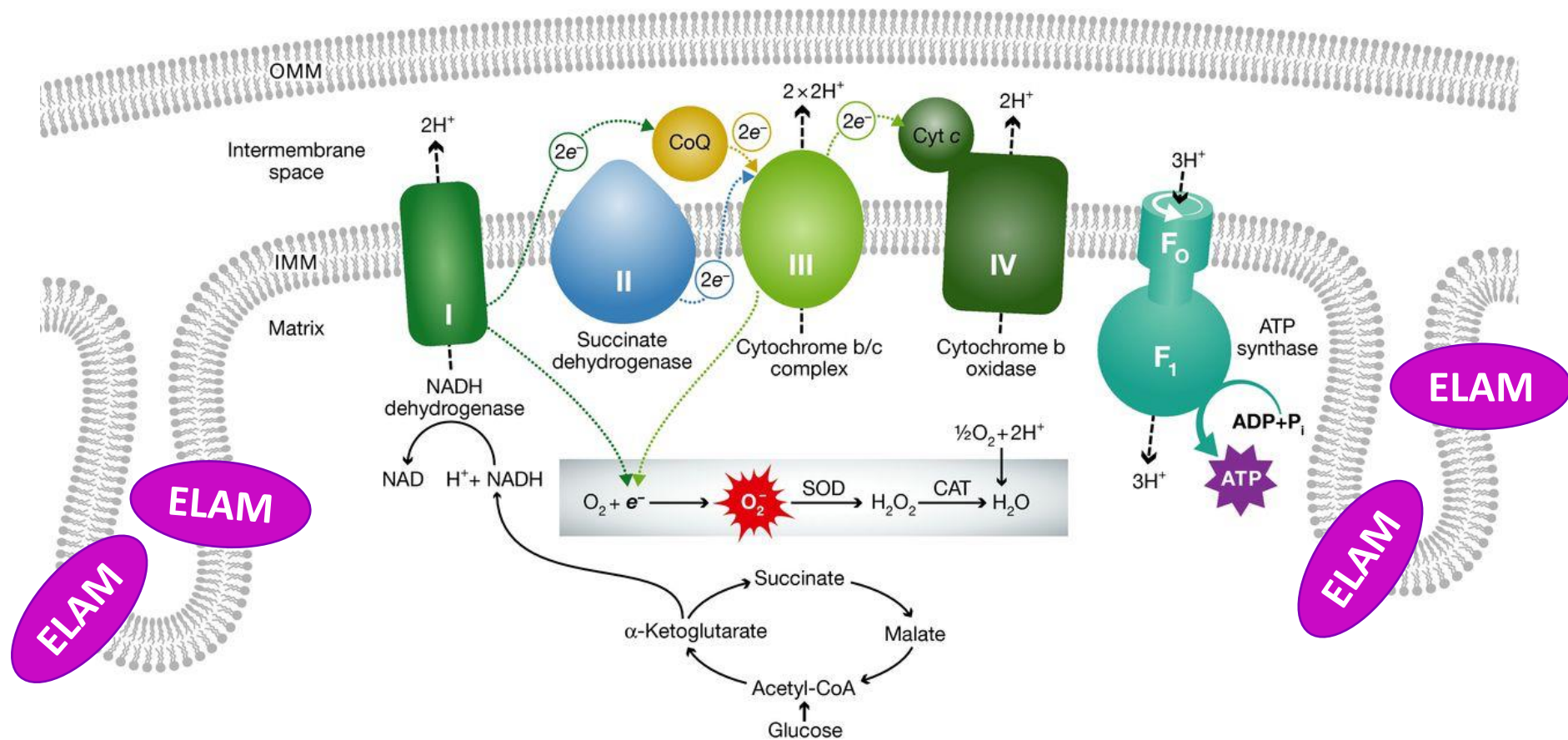
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### ▶ Purpose

#### Background:

- Mitochondria are the parts of cells that help produce energy. Metabolism is the process by which the body uses energy to help cells grow and reproduce. Metabolic and mitochondrial disorders affect the body's ability to produce and store energy. These disorders can cause a wide variety of problems, but most often they affect the muscles and the brain, where energy requirements are high. Treatment is difficult because the exact source of the problem is hard to detect.
- EPI-743 is a new drug that is based on vitamin E. Tests have shown that it can help improve the function of cells with mitochondrial problems. It may be able to treat people with genetic

# Elamipretide – Interaction with Cardiolipin



# Elamipretide (aka Bendavia or Ocuvia)

- SPIMM-203: '**MMPOWER-2**'
  - Open label extension of Phase 2 study in patients with PMD and myopathy.
  - Currently has ~30 patients continuing on treatment with elamipretide.
- SPIMM-300: '**RePOWER**' Phase 3 database.
  - Currently enrolling patients with confirmed PMD and predominant myopathy
  - International database - 34 targets sites across the world.
  - Must be enrolled in this database to be randomized into the Phase 3 clinical study.
  - Ages  $\geq 16$  yr and must be able to perform the 6MWT. Target of 300 subjects.
- SPIMM-301: Phase 3 clinical study expected to start in Q4 2017.
  - A randomized, double-blind, placebo-controlled study.
  - Will enroll approximately 200 patients with primary mitochondrial myopathy.
- Other studies in Barth, LHON and heart failure



# Omaveloxolone aka RTA 408

- Mitochondrial biogenesis (+ antioxidant + improved mitochondrial function)
- Nrf2 activator: Nrf2 regulates genes involved in mitochondrial biogenesis
- Phase II study – MOTOR - in patients with mitochondrial myopathy
- EXERCISE testing
- 12 weeks (2+10) dose escalation - randomised double blind placebo
- Adult patients (18-75yr)
- Actively recruiting – aiming for 100 participants. Closing Dec 2017?
- Outcome measures
  - Primary - Change in peak workload in exercise testing
  - Secondary – Change in distance walked in 6MWT
- USA and Denmark



# Bezafibrate aka Bezalip

- Repurposed drug: designed to lower fat (Triglycerides and LDL)
- Activates PGC1 $\alpha$  and increases mitochondrial biogenesis
- Can cause a muscle inflammation in people with kidney problems
- Phase II study complete
  - Intended to recruit 10 patients with mitochondrial myopathy and m.3243A>G
  - Open label study – proof of concept, safety and tolerability
  - Muscle biopsy at the beginning and end of study (12 weeks)
  - Participants took 200mg (x3/day) for 6 weeks then 400mg (x3/day) for 6 weeks
  - 6 patients completed the study
  - Results in analysis but well tolerated and appears to be safe
  - Aim to undertake a larger DBRCT



# RP103 aka Cysteamine Bitartrate aka Procysbi

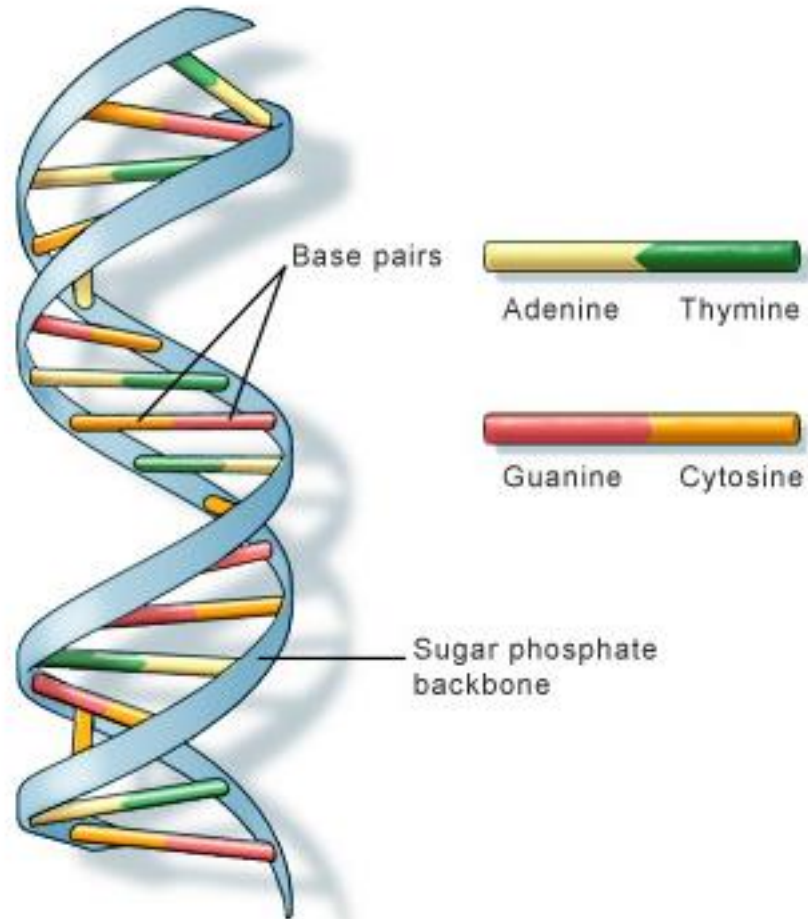
- Cysteamine Bitartrate Delayed-release Capsules (RP103)
- Prescribed for nephropathic cystinosis
- Side effects on skin, bone, bowel and brain noted in these patients
- Raptor Pharmaceuticals trialled RP103 in 2014 with extension in 2015
- Phase 2, open label to assess safety, tolerability and efficacy
- No longer recruiting. No results available.
- Horizon Pharma acquired Raptor for **\$800 million** in autumn 2016

# KH176

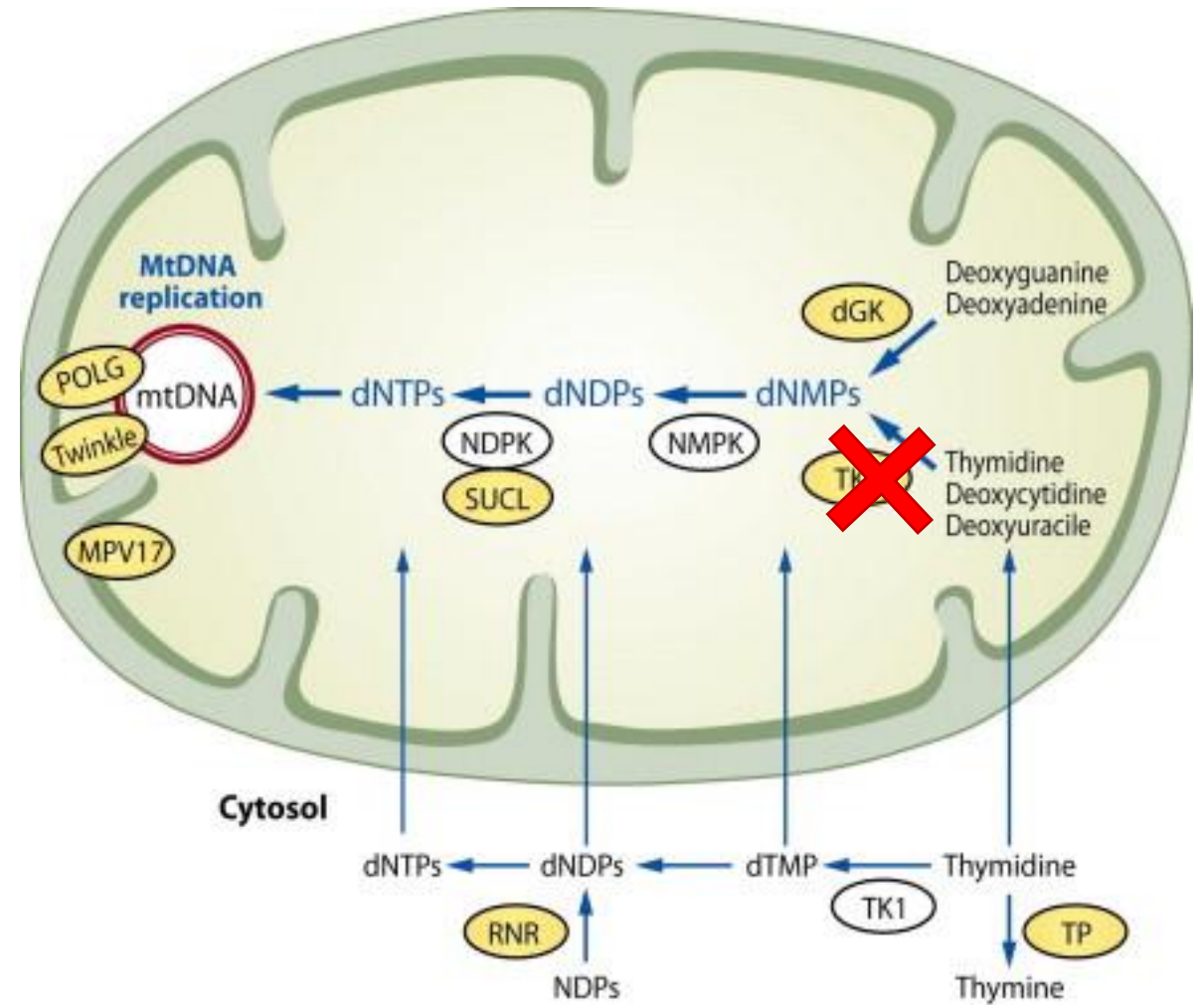
- New class of drug – helps controls redox status
- Phase I (healthy volunteers) study completed in Dec 2015
- Phase II (patients) KHENERGY study
  - Adults with m.3243A>G and clinical disease
  - 20 patients
  - Double blind randomised placebo controlled study
  - Results will become public by the end of the year/early 2018
- Phase II KHENERGYC
  - Children with mitochondrial disease



# Nucleoside bypass therapy



U.S. National Library of Medicine



Mitochondrial DNA depletion syndromes--many genes, common mechanisms. Suomalainen A, Isohanni P. Neuromuscul Disord. 2010 Jul;20(7):429-37. doi: 10.1016/j.nmd.2010.03.017. Epub 2010 May 4. Review. PMID: 20444604



# TK2 therapy in patients

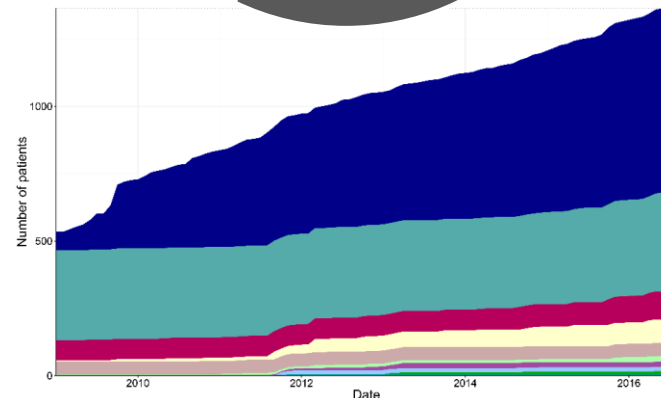
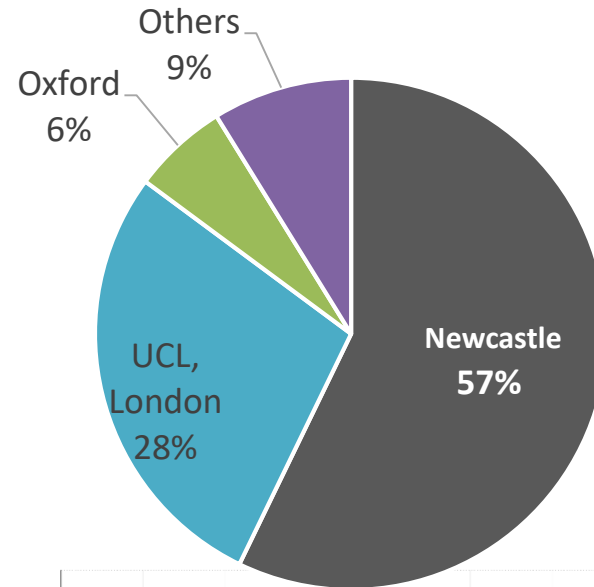
- 18 patients with TK2 deficiency have been treated with dTMP+dCMP (1), dT+dC (11), or both sequentially (6). Total cumulative exposure 45 years.
- 4 infantile-onset; 10 childhood-onset; 4 late-onset
- Ages at initiation of therapy: 1-58 years-old
- Current ages: 3-60 years-old
- Publication of results soon



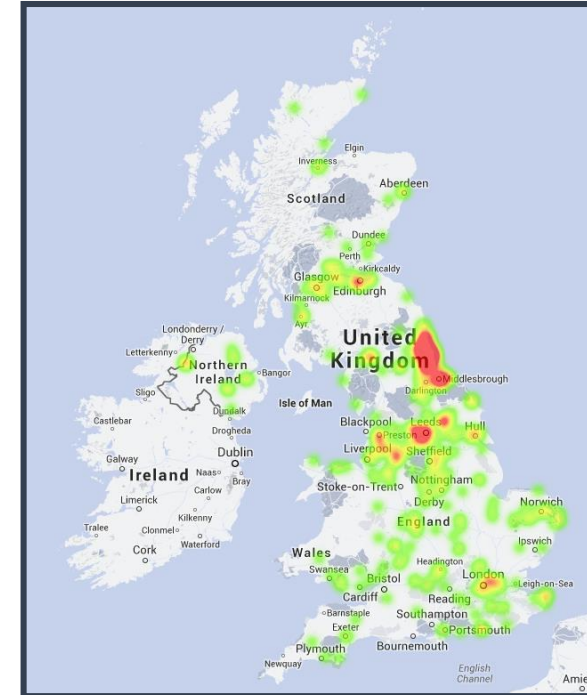


# MitoCohort Recruitment

Patient Recruitment (n=1471; NCL 882)



■ = Newcastle



Alex Bright