Chemical assisted enrichment of 5-carboxycytosine that also allows for DNA sequencing at single base resolution.

Fact Sheet

Project Information

CAC-seq.

Grant agreement ID: 887491

Funded under
EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

Total cost
€ 212 933.76

EU contribution
€ 212 933.76

Coordinated by
THE CHANCELLOR MASTERS
AND SCHOLARS OF THE
UNIVERSITY OF CAMBRIDGE
United Kingdom

Start date
1 April 2020

End date
31 March 2022

Project terminated on 31 December 2021

DOI
10.3030/887491

Project description

Bringing an important mammalian epigenetic modification into focus

Epigenetic changes are changes in the DNA that do not affect the DNA sequence itself. Common ones include adding a methyl group to the DNA or modification of histones, the proteins DNA wraps around to fit in the cell nucleus. They are critical to gene expression and can affect cell programming. For example, skin cells, brain cells and muscle cells contain the same DNA, but epigenetics affects which genes are turned on or off and thus cell fate. Active demethylation of DNA is important in
embryonic development and in the brain, and 5-carboxylcytosine (5caC) plays a role in both cases. However, its functions are largely unknown, and it is difficult to study given its low abundance. The EU-funded CAC-seq. project is developing a powerful new method to resolve 5caC, promising significant progress in untangling its role in mammalian epigenetic outcomes.

**Fields of science**

- natural sciences > biological sciences > genetics > DNA
- medical and health sciences > medical biotechnology > cells technologies > stem cells
- natural sciences > biological sciences > genetics > RNA
- natural sciences > biological sciences > genetics > epigenetics

**Keywords**

- CAC-seq.

**Programme(s)**

- H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions
- H2020-EU.1.3.2. - Nurturing excellence by means of cross-border and cross-sector mobility

**Topic(s)**

- MSCA-IF-2019 - Individual Fellowships

**Call for proposal**

- H2020-MSCA-IF-2019

See other projects for this call

**Funding Scheme**

- MSCA-IF - Marie Skłodowska-Curie Individual Fellowships (IF)
Coordinator

THE CHANCELLOR MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE

Net EU contribution
€ 212,933,76

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East of England > East Anglia > Cambridgeshire CC

Links
Contact the organisation Website Participation in EU R&I programmes HORIZON collaboration network

Other funding
€ 0,00

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