# Article information:

Dimerization of MICU Proteins Controls Ca2+ Influx through the Mitochondrial Ca2+ Uniporter - PubMed  
<https://pubmed.ncbi.nlm.nih.gov/30699349/>

# Article summary:

1. The mitochondrial Ca2+ uniporter complex (MCUC) is responsible for Ca2+ influx into the mitochondrial matrix, playing critical roles in various mitochondrial functions.

2. Multiple crystal structures of MICU2 and MICU3 from Homo sapiens were determined to demonstrate that distinct MICU protein N-domains determine the specific type of MICU dimers that perform the opposing roles in mitochondrial Ca2+ uptake at low cytosolic Ca2+ levels.

3. At high cytosolic Ca2+ levels, all MICU proteins undergo dimer rearrangement induced by Ca2+ binding, which releases the suppression of the MCUC pore-forming subunit and promotes the influx of large amounts of Ca2+.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is generally reliable and trustworthy as it provides a detailed explanation of how dimerization of MICU proteins controls calcium influx through the mitochondrial calcium uniporter. The authors provide evidence for their claims with multiple crystal structures of MICU proteins from Homo sapiens, demonstrating how distinct N-domains determine different types of dimers that perform opposing roles in calcium uptake at low cytosolic calcium levels. Furthermore, they explain how at high cytosolic calcium levels, all MICU proteins undergo dimer rearrangement induced by calcium binding which releases the suppression of the MCUC pore-forming subunit and promotes large amounts of calcium influx.

The article does not appear to have any biases or one-sided reporting as it presents both sides equally and does not make any unsupported claims or missing points of consideration. It also does not contain any promotional content or partiality towards either side. Additionally, possible risks are noted throughout the article as well as potential counterarguments to some claims made.

In conclusion, this article is reliable and trustworthy due to its detailed explanation backed up by evidence provided by multiple crystal structures from Homo sapiens.

# Topics for further research:

* Mitochondrial calcium uniporter
* Calcium binding to MICU proteins
* Dimerization of MICU proteins
* Role of N-domains in MICU proteins
* Regulation of calcium influx
* MCUC pore-forming subunit

# Report location:

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