# Article information:

Mitochondrial dysfunction rapidly modulates the abundance and thermal stability of cellular proteins. - Abstract - Europe PMC  
<https://europepmc.org/article/MED/36941057>

# Article summary:

1. Mitochondrial dysfunction leads to cytosolic accumulation of mitochondrial precursor proteins, compromising cellular proteostasis and triggering a mitoprotein-induced stress response.

2. Pre-post thermal proteome profiling is a multiplexed time-resolved proteome-wide thermal stability profiling approach that can elucidate dynamic proteostasis changes in several dimensions, including adaptations in protein abundance and rapid modulations of the thermal stability of individual cellular proteins.

3. Different functional groups of proteins show characteristic response patterns and react with group-specific kinetics, allowing the identification of functional modules that are relevant for mitoprotein-induced stress. This complex response network orchestrates proteome homeostasis in eukaryotic cells by time-controlled adaptations of the abundance and conformation of proteins.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

作为一篇科学研究论文，该文章并没有明显的偏见或宣传内容。然而，需要注意的是，该研究只涉及细胞蛋白质组在线粒体功能失调时的变化，并未探讨其他可能影响蛋白质组稳定性和丰度的因素。此外，该研究也没有考虑到不同细胞类型、环境条件和疾病状态对蛋白质组稳定性和丰度的影响。因此，在将这些结果应用于实际情况时需要谨慎，并进行更广泛的研究以验证其可靠性和适用性。

# Topics for further research:

* Other factors affecting protein stability and abundance
* Different cell types and their impact on protein stability and abundance
* Environmental conditions and their influence on protein stability and abundance
* Disease states and their effect on protein stability and abundance
* Caution in applying results to practical situations
* Need for further research to validate reliability and applicability of results

# Report location:

<https://www.fullpicture.app/item/a4ed5285b5e0537a4566ce53f2766a75>