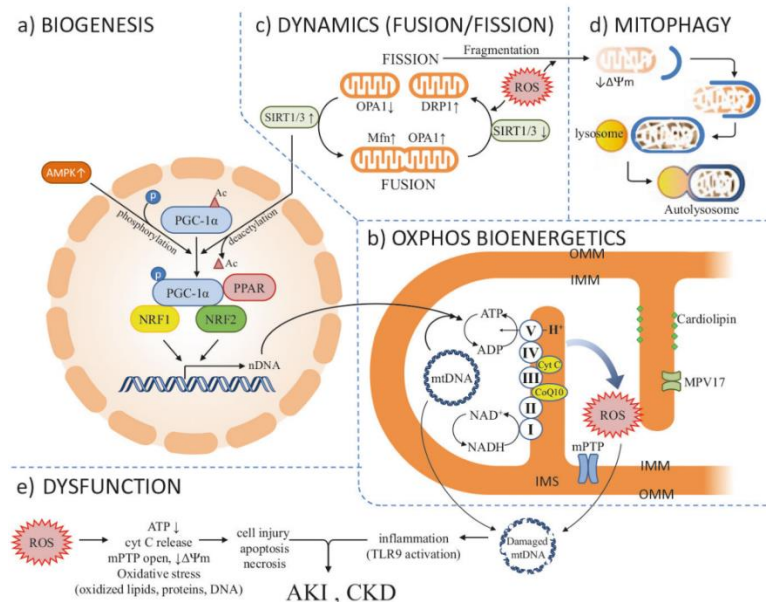


## Kidney-Disease-Related Mitochondria Studies

The kidney is a mitochondria-rich organ with high energy requirements in the body.

Abnormalities and dysfunction of renal mitochondria affect several cellular pathways, leading to increased oxidative stress, apoptosis, microvascular loss and fibrosis, all of which can impair kidney function.



The health and disease of the kidney are regulated by the pathophysiological conditions of mitochondria (Duann & Lin, 2017).

Mitochondria dysfunction gets involved in kidney diseases in the following aspects:

- mtDNA damage, reduced matrix density and impaired outer/inner membrane integrity.
- Changes in mitochondrial homeostasis, the molecular control of mitochondrial formation (biogenesis), morphology (fusion/division) and degradation (mitosis).
- Mitochondrial abnormalities and impaired homeostasis lead to bioenergetic impairment (reduced ATP production and calcium signaling), triggering oxidative stress and apoptosis.

Targeting mitochondria to study [kidney disease](#) is a novel and promising field. Creative Biogene works with you to validate and explore the pathogenesis of mitochondria-associated kidney diseases and possible interventions, with professional services and products to support your research.

### Our Capabilities

*In vivo/in vitro* assessment of mitochondrial function can be a useful tool for mechanistic studies of kidney diseases, as well as for the evaluation of (novel) therapeutic interventions.

Creative Biogene provides rapid mitochondrial function testing services, allowing clients to accurately analyze the relationship between disease and mitochondria.