

# **CLASSIFICATION OF MITOCHONDRIAL NETWORK IMAGES ASSOCIATED WITH THE STUDY OF BREAST CÁNCER**

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## **Abstract**

Within various cellular processes, an increase in fission (a division of a single organelle into two or more independent structures) causes mitochondrial fragmentation and an increase in fusion (the opposite reaction of fission) produces a network of mitochondria that counteracts metabolic processes [1]. A balance between fission and fusion defines a mitochondrial morphology whose purpose is to meet metabolic demands and ensure removal of damaged organelles. These events have been associated with proliferation and redistribution of mitochondria, allowing the study of different breast cancer subtypes [2, 3]. This study presents a classification method for images of mitochondrial networks extracted from different cellular lines (MCF10A, BT549, MDAMB23, and CMF) belonging to different breast cancer subtypes.

## **Keywords**

Breast cáncer, Classification of mitochondrial, Network images