

# Effects of cryopreservation on mitochondria of fish spermatozoa

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© 2015 Wiley Publishing Asia Pty Ltd The development of sperm cryopreservation has enabled transcendental changes to occur in the reproductive biotechnology of both mammals and fish; it has become a basic tool for animal improvement. Nevertheless, these protocols cause damage to cell structure and physiology, altering sperm functioning due to cryo-injuries during freezing and thawing. However, studies of the effects on the structural, functional and genomic stability of the mitochondria in fish spermatozoa during cryopreservation are still lacking. The object of this review was to analyse the effect of cryopreservation on mitochondrial metabolic pathways in fish spermatozoa. This effect is related with the bioenergy mechanism for flagellar movement during the activation of sperm motility. In teleost fish, the mitochondria may be cylindrical, spherical or irregular in shape and adhere in a helicoidal or conical pattern to the middle piece. The salmonidae have only a single mitochondrion,