

Mitochondrial Copy Number PCR-Based Kits

Real-Time PCR DNA Mitochondrial Quantification for Human, Mouse and Rat

Human Catalog # MCN1

Rat Catalog # MCN2

Mouse Catalog # MCN3

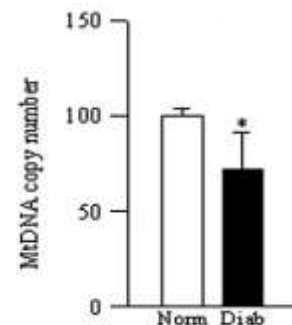
This DNA analysis kit is for the determination of human mitochondrial DNA copy number, *in vivo* and *in vitro*, by the comparison of mitochondrial (mt) and nuclear (n) DNA measured by real-time PCR. This kit allows for duplicate analysis of up to 22 samples (44 reactions).

Kit Contents:

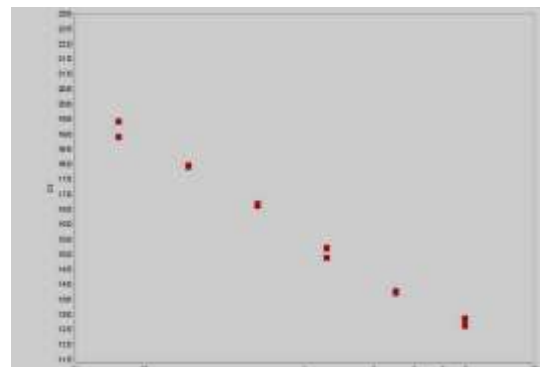
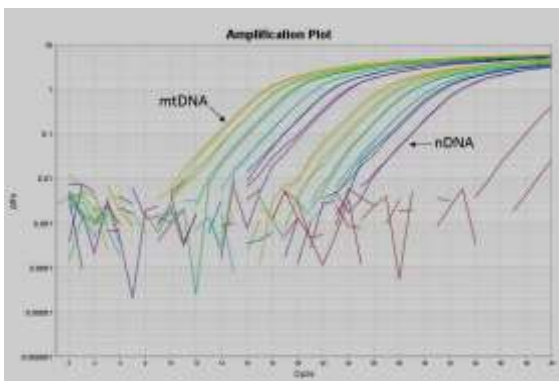
- 96 well PCR plate with cover
- rtPCR reaction mix.
- Validated primers to quantify mitochondrial DNA.
- Validated primers to quantify nuclear DNA.
- Positive control isolated from total DNA (1.825 ng/ μ l).

Recommended concentration: between 3.75-0.5 ng/ml

Results representation: Mt copy number (Δ CT mtDNA/ Δ CT nDNA)



Comparison of mitochondrial DNA copy number in retina from normal and diabetic patients. Santos et.al. Free Radical Biology & Medicine 51: 1849-1860, 2011.



Left: Real-Time PCR Amplification Plots of rat positive control; Right: Representative Real-Time analysis of mitochondrial DNA

References

- 1) Yi, CX et al. (2017) TNF α drives mitochondrial stress in POMC neurons in obesity. Nature Communications 8:15143 | DOI: 10.1038/ncomms15143.
- 2) SP Singh, JA McClung, L Bellner, J Cao, M Waldman, J Schragenheim, M Arad, E Hochhauser, JR Falck, JA Weingarten, SJ Peterson and NG Abraham. 2018. Cardiovasc Pharm Open Access 6: 233
- 3) I Horikawa, K Park, K. Isogaya, Y Hiyoshi, H Li, K. Anami, AI Robles, AM Mondal K Fujita, M Serrano and CC Harris. 2017. D133p53 represses p53-inducible senescence genes and enhances the generation of human induced pluripotent stem cells. Cell Death and Differentiation, 2017, 1-12.
- 4) JM Santos, D Oliveira, MA Morelli, SA Benite-Ribeiro. 2018. The role of mitochondrial DNA damage at skeletal muscle oxidative stress on the development of type 2 diabetes. Molecular and Cellular Biochemistry DOI: 10.1007/s11010-018-3361-5