ROLE OF MITOCHONDRIAL UCP2 PROTEIN DURING VIRAL INFECTION

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Abstract

Coxsackievirus B3 causes myocarditis, an autoimmune inflammation of heart muscle, which can cause decreased heart function and potentially death. Unfortunately, like most viral infections, myocarditis lacks an efficient therapy; treatment is largely symptomatic. We have identified that during viral infection with Coxsackievirus B3 (CVB3), expression of mitochondrial protein UCP2 (uncoupling protein 2) is significantly decreased, but only in cells of female origin. As myocarditis manifests predominantly in men, this finding may indicate that down-regulation of the UCP2 expression in females is protective. My studies will identify whether changes in UCP2 expression affect cell metabolism and innate immune response.