

GABP REGULATION OF THE MURINE GABP α /ATPSYNTASE COUPLING FACTOR SIX AND HUMAN GLUTATHIONE REDUCTASE PROMOTERS

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ABSTRACT

GABP α is expressed from a bi-directional promoter expressing ATP synthase coupling factor six (CF6) in the opposite direction. This bi-directional promoter is regulated by GABP, indicating an autoregulation of GABP α . GABP is a redox sensitive transcription factor that either directly or indirectly regulates expression of many components of the electron transport chain and glutathione reductase (GSR). The electron transport chain is a major producer of oxidizing species. GSR acts to reduce glutathione and recycle it for further use as an antioxidant. The cellular response to oxidative stress is still being characterized and understanding the regulation of expression of GSR is a critical component. This dissertation focuses on the regulation of expression from the mGABP α /CF6 bi-directional promoter and the human glutathione reductase promoter.