

Mapping of the Mouse Actin Capping Protein Beta Subunit Gene

ABSTRACT

The CP gene (Cappb1) mapped to Chromosome 4 between Cdc42 and D4Mit312. Three mouse mutations, as well as snubnose, curly tail, and cribriform degeneration, are located in the vicinity of the Gene.

INTRODUCTION

The mouse actin Capping protein beta subunit has been shown to be a major component of the mammalian mesenchymal stem cell (MSC). Its structural and functional properties have been extensively studied. However, the exact function of actin Capping is not fully understood. It has been proposed that actin Capping is a novel component of the human mesenchymal stem cell (HMSC) that is involved in regulating gene expression. The role of actin Capping in regulating gene expression is unknown. In this study, we have studied the expression of various genes in mice exposed to actin Capping in vitro.

Methods:

We used fluorescently labeled actin Capping protein beta subunit (ACTB) as a marker of human mesenchymal stem cell (HMSC) Actin assembly and cell motility are regulated by Capping protein (CP), which is a ubiquitous actin binding protein that is composed of α and β heterodimers, each with varying amounts of 30 kD. Lower organisms like *Saccharomyces cerevisiae*, *Caenorhabditis elegans*, and *Drosophila melanogaster* have overlapping gene sets for CP or p53 subunits; vertebrates have three subunit isoforms encoded by three different genes, while three were

CONCLUSION

Remarkable conclusions The CP gene (Cappb1) mapped to Chromosome 4 between Cdc42 and D4Mit312. Three mouse mutations, as well as snubnose, curly tail, and cribriform degeneration, are located in the vicinity of the Gene.