Exoenzyme C3 (Rho Inhibitor) Expression Vector

CATALOG NUMBER: STA-460 **STORAGE:** -80ºC

QUANTITY AND CONCENTRATION: 100 µl of bacterial glycerol stock.

Background

Three members of the Rho family small GTPase, Rho, Rac, and Cdc42, have been shown to play a crucial role in regulating the organization of the actin cytoskeleton in response to extracellular stimuli. Activation of Rho, Rac, and Cdc42 in quiescent Swiss 3T3 fibroblasts induces the assembly of filamentous actin into stress fibers, lamellipodia, and filopodia, respectively. In addition to these effects on the actin cytoskeleton, it has been shown Rac and Cdc42 (and in some cells Rho) can activate JNK and p38 that leads to transcriptional activation. In fibroblast cells, Rho, Rac, and Cdc42 have each been implicated in cell cycle control.

Exoenzyme C3 (ADP-ribosyltransferase) was originally purified from certain strains of *Clostridium botulinum* culture supernatant fraction. This enzyme can ADP-ribosylate and inactivate RhoA, RhoB and RhoC, but not Rac1 or Cdc42. Exoenzyme C3 catalyzes the addition of ADP-ribose from NAD to Asp42 of Rho, inactivating Rho.

The Exoenzyme C3 gene from *Clostridium botulinum* is fused with GST in pCMV5 expression vector (Figure 1).

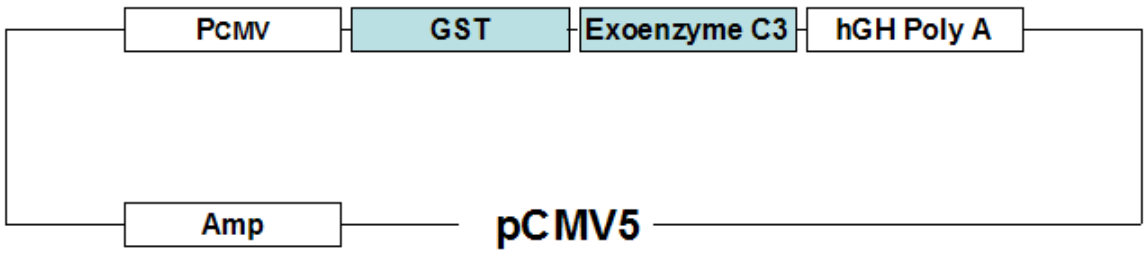

Figure 1. pCMV5-GST-C3 Expression Vector Map

References

1. Morgenstern, J. P. and H Land. (1990) *Nuc. Acid Res.* 18, 3587-3596.
2. Schuck S, Manninen A, Honsho M, Fullekrug J and Simons K. (2004) *Proc Natl Acad Sci U S A.* 101, 4912-4917.
3. Machesky L. M. and Hall A. (1996) *Trends Cell Biol.* 6:304-10.

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