

## H-Ras Expression Vector Set

**CATALOG NUMBER:** STA-457

**STORAGE:** -80°C

**QUANTITY AND CONCENTRATION:** 3 vectors; each 100 µl of bacterial glycerol stock.

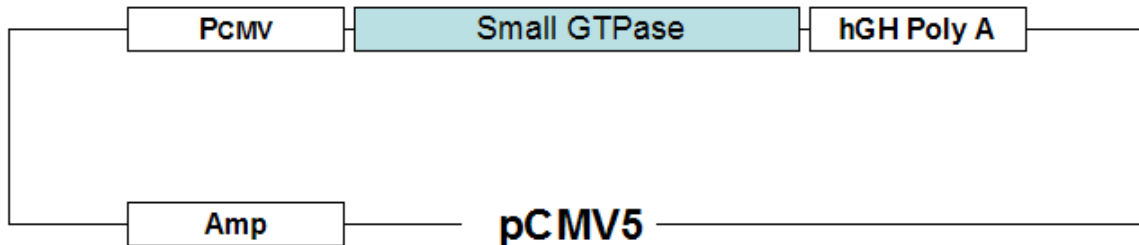
### Components

1. pCMV5-H-Ras (Wild Type) (Part No. 345701): One tube
2. pCMV5-H-Ras T17N (Dominant Negative) (Part No. 345702): One tube
3. pCMV5-H-Ras G12V (Constitutively Active) (Part No. 345703): One tube

### Background

Ras genes encode 21 kDa guanine nucleotide-binding proteins, including H-, K- and N-Ras. H-Ras was first identified as oncogene, mutated Ras genes have been found in many human tumors. Like all GTPases, Ras act as molecular switch to control downstream cellular events. The interconversion of the inactive GDP-bound form into the active GTP-bound form is regulated by guanine nucleotide exchange factors, whereas inactivation of the GTP-bound form is stimulated by GTPase-activating proteins (GAPs). Ras in its active GTP bound form binds to Raf, resulting in activation of MAP kinase cascade.

The small GTPase gene from human is cloned in pCMV5 expression vector (Figure 1).



**Figure 1.** pCMV5-H-Ras Expression Vector Map

### References

1. Morgenstern, J. P. and H Land. (1990) *Nuc. Acid Res.* 18, 3587-3596.
2. Marshall C. J., Lloyd A. C., Morris J. D., Paterson H., Price B and Hall A. (1989) *Int J Cancer Suppl.* 4:29-31.
3. Schuck S, Manninen A, Honsho M, Fullekrug J and Simons K. (2004) *Proc Natl Acad Sci U S A.* 101, 4912-4917.
4. Machesky L. M. and Hall A. (1996) *Trends Cell Biol.* 6:304-10.

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