

V5-Probe (sv5-pk): sc-58052

BACKGROUND

Plasmid vectors for the expression of coding regions of eukaryotic genes in bacterial, insect and mammalian hosts are in common usage; such expression vectors are frequently used to encode hybrid fusion proteins consisting of a eukaryotic target protein and a specialized region designed to aid in the purification and visualization of the target protein. An example is the V5-Probe which recognizes a small epitope, termed Pk, on the P/V proteins of the paramyxovirus simian virus 5 (SV5). This small peptide has proven useful in visualization and immunoaffinity purification of expressed fusion proteins. More than 20 recombinant proteins, some of which include transmembrane and secreted proteins, have been tagged with this epitope and detected via western blot, immunoprecipitation and immunofluorescence.

REFERENCES

- Maniattis, T., et al. 1982. Molecular Cloning. Cold Spring Harbor, New York: Cold Spring Harbor Laboratory.
- Duplay, P., et al. 1984. Sequences of the malE gene and of its product, the maltose-binding protein of *Escherichia coli* K12. J. Biol. Chem. 259: 10606-10613.
- Smith, D.B. and Johnson, K.S. 1988. Single-step purification of polypeptides expressed in *Escherichia coli* as fusions with glutathione S-transferase. Gene 67: 31-40.
- Maina, C.V., et al. 1988. An *Escherichia coli* vector to express and purify foreign proteins by fusion to and separation from maltose-binding protein. Gene 74: 365-373.
- Ebert, S.N. and Wong, D.L. 1995. Differential activation of the rat phenylethanolamine N-methyltransferase gene by Sp1 and Egr-1. J. Biol. Chem. 270: 17299-17305.
- Young, D.F., et al. 2001. Single amino acid substitution in the V protein of simian virus 5 differentiates its ability to block interferon signaling in human and murine cells. J. Virol. 75: 3363-3370.

SOURCE

V5-Probe (sv5-pk) is a mouse monoclonal antibody raised against V5 fusion protein.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

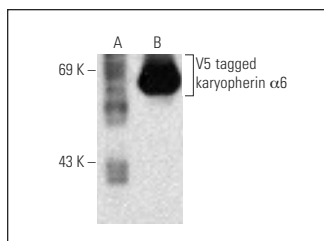
APPLICATIONS

V5-Probe (sv5-pk) is recommended for detection of V5 fusion protein of Simian Virus 5 origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

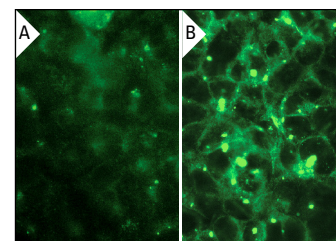
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



V5-Probe (sv5-pk): sc-58052. Western blot analysis of karyopherin $\alpha 6$ expression in non-transfected: sc-117752 (A) and human karyopherin $\alpha 6$ transfected: sc-173792 (B) 293T whole cell lysates.




V5-Probe (sv5-pk): sc-58052. Immunofluorescence staining of methanol-fixed untransfected (A) and V5-Probe transfected HEK 293 cells (B).

SELECT PRODUCT CITATIONS

- Wang, B., et al. 2011. Enhanced induction of anti-tumor CTLs *in vitro* by a lentivirus-transduced dendritic cell vaccine expressing secondary lymphoid tissue chemokine and mucin 1. Asian Pac. J. Cancer Prev. 12: 2811-2817.
- Park-York, M., et al. 2013. PKC θ over expression in the central nucleus of the amygdala or hypothalamus has differential effects on energy balance and peripheral glucose homeostasis. Brain Res. 1498: 85-94.
- Al-Qattan, M.M., et al. 2013. Salamander-derived, human-optimized nAG protein suppresses collagen synthesis and increases collagen degradation in primary human fibroblasts. Biomed. Res. Int. 2013: 384091.
- Hwang, S., et al. 2015. Impaired GAPDH-induced mitophagy contributes to the pathology of Huntington's disease. EMBO Mol. Med. 7: 1307-1326.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.



See **V5-Probe (H-9): sc-271926** for V5-Probe antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.