SANTA CRUZ BIOTECHNOLOGY, INC.

Net (C-20): sc-17860

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ras signaling is mediated in part by transcription factors, which belong to one of the largest families of signal-dependent transcriptional regulators, the Ets gene family. One member of the Ets gene family, Net (also designated ERP and SAP-2), shares various properties with Ets factors Elk-1 and SAP-1. Like Ets factors Elk-1 and SAP-1, Net binds to Ets DNA motifs through the Ets domain and forms ternary complexes with the serum response factor SRF on the Fos serum response element SRE. Net contains two nuclear localization signals, one in the Ets domain and one corresponding to the D box, as well as a nuclear export signal in the conserved Ets DNA binding domain. Net is exported from the nucleus in response to stress stimuli transduced through the JNK pathway. ERK and p38 bind to the D box of Net to allow phosphorylation of the adjacent C-terminal C-domain, which, in combination with the D box, is required for transcription activation by Ras. However, the binding of JNK to the J box results in phosphorylation of the adjacent export motif, which is important for Net export from the nucleus. Therefore, Net acts as a transcriptional repressor that is converted into an activator by Ras/ERK signaling and is regulated by nuclear-cytoplasmic shuttling in response to specific signaling pathways.

REFERENCES

1. Giovane, A., et al. 1994. Net, a new Ets transcription factor that is activated by Ras. Genes Dev. 8: 1502-1513.
2. Price, M.A., et al. 1995. Comparative analysis of the ternary complex factors Elk-1, SAP-1a and SAP-2 (ERP/Net). EMBO J. 14: 2589-2601.
3. Ducret, C., et al. 1999. The Net repressor is regulated by nuclear export in response to anisomycin, UV, heat shock. Mol. Cell. Biol. 19: 7076-7087.

CHROMOSOMAL LOCATION

Genetic locus: ELK3 (human) mapping to 12q23.1; Elk3 (mouse) mapping to 10 C2.

SOURCE

Net (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Net of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-17860 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-17860 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

Net (C-20) is recommended for detection of Net of human and, to a lesser extent, mouse and rat 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

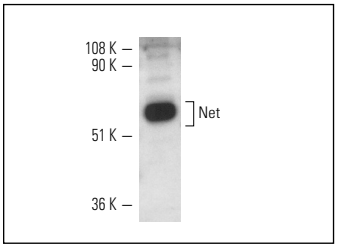
Net (C-20) is also recommended for detection of Net in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Net siRNA (h): sc-37867, Net siRNA (m): sc-37868, Net shRNA Plasmid (h): sc-37867-SH, Net shRNA Plasmid (m): sc-37868-SH, Net shRNA (h) Lentiviral Particles: sc-37867-V and Net shRNA (m) Lentiviral Particles: sc-37868-V.

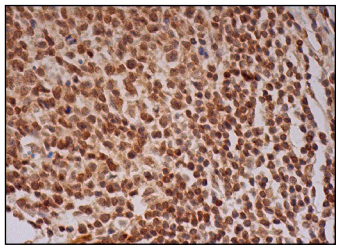
Net (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Net: 62 kDa.

DATA



Net (C-20): sc-17860. Western blot analysis of Net expression in rat lung tissue extract.



Net (C-20): sc-17860. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear staining of lymphoid cells.

SELECT PRODUCT CITATIONS

1. Yamazaki, Y., et al. 2003. Transcriptional regulation of the cytosolic chaperonin θ subunit gene, Cctq, by Ets domain transcription factors Elk-1, Sap-1a, and Net in the absence of serum response factor. J. Biol. Chem. 278: 30642-30651.
2. Hasan, R.N., et al. 2008. Hemin upregulates Egr-1 expression in vascular smooth muscle cells via reactive oxygen species ERK-1/2-Elk-1 and NFκB. Circ. Res. 102: 42-50.
3. Sloan, K.A., et al. 2009. Increased PEA3/E1AF and decreased Net/Elk-3, both ETS proteins, characterize human NSCLC progression and regulate caveolin-1 transcription in Calu-1 and NCI-H23 NSCLC cell lines. Carcinogenesis 30: 1433-1442.