SANTA CRUZ BIOTECHNOLOGY, INC.

Jurkat + PMA nuclear extract: sc-2133

BACKGROUND

Santa Cruz Biotechnology Inc. offers a range of intact mammalian nuclear protein extracts for your proteomics research, including DNA binding electrophoretic mobility shift assays (EMSA), and with primary antibodies, for use as western blotting endogenous protein expression controls. Human *(Homo sapiens)*, mouse *(Mus musculus)*, and rat *(Rattus norvegicus)* nuclear extracts are enriched from in vitro suspension-type, or adherent-type cell cultures, that are maintained under controlled conditions, and according to each lineage specific cell culture specification. Nuclear extraction methodology ensures both protein integrity, and lot-to-lot reproducibility. Each preparation contains a consistent concentration and assortment of endogenous nuclear proteins capable of binding DNA, and/or class II/III polymerase activity.

This is a clone of the Jurkat-FHCRC cell line, a derivative of the Jurkat cell line. The Jurkat cell line was established from the peripheral blood of a 14 year old boy by Schneider, et al, and was originally designated JM. Clone E6-1 cells produce large amounts of IL-2 after stimulation with phorbol esters and either lectins or monoclonal antibodies against the T3 antigen (both types of stimulants are needed to induce IL-2 production).

REFERENCES

1. Gillis, S. and Watson, J. 1980. Biochemical and biological characterization of lymphocyte regulatory molecules. V. Identification of an interleukin 2-producing human leukemia T cell line. J. Exp. Med. 152: 1709-1719.
2. Weiss, A., et al. 1984. The role of T3 surface molecules in the activation of human T cells: a two-stimulus requirement for IL-2 production reflects events occurring at a pre-translational level. J. Immunol. 133: 123-128.
3. Berninghausen, O. and Leippe, M. 1997. Necrosis versus apoptosis as the mechanism of target cell death induced by *Entamoeba histolytica*. Infect. Immun. 65: 3615-3621.

SOURCE

Organism:	*Homo sapiens* (human)
Tissue:	Blood
Disease:	Acute T cell leukemia
Cell Type:	T lymphocyte
Morphology:	Lymphoblast
Growth Properties:	Suspension

PRODUCT

Mammalian nuclear extracts are supplied as 1000 µg total in 4 vials at 250 µg/50 µl per vial (5 µg/µl concentration), in 20 mM HEPES (pH 7.9), 20% v/v glycerol, 0.1 M KCl, 0.2 mM EDTA, 0.5 mM PMSF and 0.5 mM DTT buffer. Optimized for maximum protein and DNA-binding activity.

STORAGE

Store at -70° C, avoid repeated freeze/thaw cycles. 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.

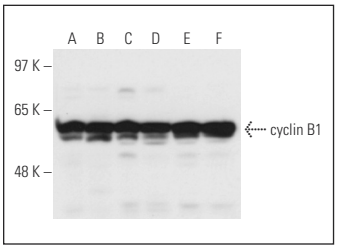
APPLICATIONS

Mammalian nuclear extracts (5 µg/µl) contain intact proteins, and are suitable for proteomics research, including DNA binding assays (EMSA), and as Western Blotting positive controls; pipet 1:1 volume:volume of Electrophoresis Sample Buffer, 2X (sc-24945) to equal volume of nuclear extract, heat at 95° C for 3-5 minutes. Recommended loading at 20-30 µg/lane.

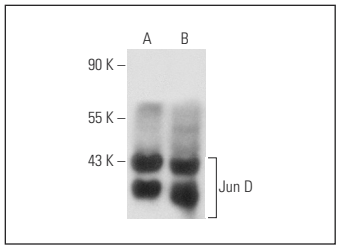
PREPARATION METHOD

Mammalian cells are cultured *in vitro* under an appropriate buffered media condition to either an optimal suspension cell density or optimal adherent sub-conlfluency. Cells are harvested from cell culture media, and undergo a series of centrifugation, resuspension, homogenization and dialysis steps. Nuclear extracts are adjusted to a final concentration of 5 µg/µl, with each product containing total 1000 µg protein divided into four separate vials (4 x 250 µg/50 µl).

DATA



cyclin B1 (V152): sc-53236. Western blot analysis of cyclin B1 expression in HeLa (**A**), PMA treated HeLa (**B**), K-562 (**C**), PMA treated K-562 (**D**), Jurkat (**E**) and PMA treated Jurkat (**F**) nuclear extracts.



Jun D (D-9): sc-271938. Western blot analysis of Jun D expression in PMA treated Jurkat (**A**) and PMA treated RAW 264.7 (**B**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Marden, N.Y., et al. 2003. Role of activator protein-1 in the down-regulation of the human CYP2J2 gene in hypoxia. Biochem. J. 373: 669-680.
2. Nakase, K., et al. 2009. Mechanisms of SHP-1 P2 promoter regulation in hematopoietic cells and its silencing in HTLV-1-transformed T cells. J. Leukoc. Biol. 85: 165-174.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.