

KRR1 (F-9): sc-365192

BACKGROUND

The SSU is a large ribonucleoprotein consisting of at least 40 proteins and the U3 small nucleolar RNA. It is involved in pre-rRNA processing and ribosome assembly. The SSU is necessary for the biogenesis of the 18S rRNA. Cells that are depleted of SSU proteins will arrest in the G₁ phase of the cell cycle. KRR1, also known as HRB2 (HIV-1 Rev binding protein 2) or RIP-1 (Rev interacting protein 1), is a nonribosomal component of the small subunit processome (SSU). KRR1 is 381 amino acids in length and is evolutionarily conserved among human, yeast, fly, nematode and rice. KRR1 localizes to the nucleolus and is highly expressed in dividing cells. It contains one conserved KH domain (RNA-binding motif) and is a crucial component of the SSU, required for both rRNA maturation and ribosome biogenesis.

REFERENCES

1. Sasaki, T., et al. 2000. Yeast Krr1p physically and functionally interacts with a novel essential Kri1p, and both proteins are required for 40S ribosome biogenesis in the nucleolus. *Mol. Cell. Biol.* 20: 7971-7979.
2. Gromadka, R. and Rytko, J. 2002. The KRR1 gene encodes a protein required for 18S rRNA synthesis and 40S ribosomal subunit assembly in *Saccharomyces cerevisiae*. *Acta Biochim. Pol.* 47: 993-1005.
3. Bernstein, K.A., et al. 2004. The small-subunit processome is a ribosome assembly intermediate. *Eukaryot. Cell* 3: 1619-1626.
4. Gromadka, R., et al. 2004. Functional and physical interactions of Krr1p, a *Saccharomyces cerevisiae* nucleolar protein. *Acta Biochim. Pol.* 51: 173-187.
5. Bernstein, K.A. and Baserga, S.J. 2004. The small subunit processome is required for cell cycle progression at G₁. *Mol. Biol. Cell* 15: 5038-5046.

CHROMOSOMAL LOCATION

Genetic locus: KRR1 (human) mapping to 12q21.2; Krr1 (mouse) mapping to 10 D2.

SOURCE

KRR1 (F-9) is a mouse monoclonal antibody raised against amino acids 32-231 mapping within an internal region of KRR1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KRR1 (F-9) is available conjugated to agarose (sc-365192 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365192 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365192 PE), fluorescein (sc-365192 FITC), Alexa Fluor® 488 (sc-365192 AF488), Alexa Fluor® 546 (sc-365192 AF546), Alexa Fluor® 594 (sc-365192 AF594) or Alexa Fluor® 647 (sc-365192 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365192 AF680) or Alexa Fluor® 790 (sc-365192 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

KRR1 (F-9) is recommended for detection of KRR1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for KRR1 siRNA (h): sc-95701, KRR1 siRNA (m): sc-146573, KRR1 shRNA Plasmid (h): sc-95701-SH, KRR1 shRNA Plasmid (m): sc-146573-SH, KRR1 shRNA (h) Lentiviral Particles: sc-95701-V and KRR1 shRNA (m) Lentiviral Particles: sc-146573-V.

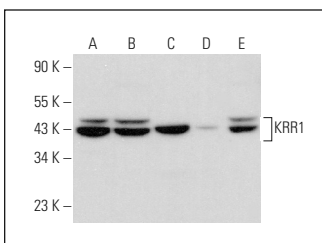
Molecular Weight of KRR1: 44 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MOLT-4 cell lysate: sc-2233 or WEHI-231 whole cell lysate: sc-2213.

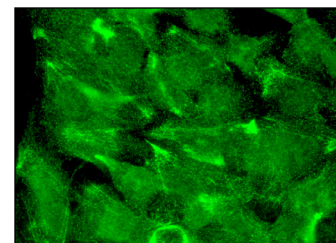
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



KRR1 (F-9): sc-365192. Western blot analysis of KRR1 expression in Jurkat (A), MOLT-4 (B), WEHI-231 (C), M1 (D) and Daudi (E) whole cell lysates.



KRR1 (F-9): sc-365192. Immunofluorescence staining of methanol-fixed Hep G2 cells showing cytoplasmic and nuclear localization.

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.

PROTOCOLS

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