

Pur α (80-L): sc-130397

BACKGROUND

The Pur protein family consists of four members: Pur α , Pur β and two isoforms of Pur γ . Pur α , a protein strongly conserved throughout evolution, is a single-stranded (ss) DNA- and RNA-binding protein that contains three conserved signature repeats, which have an affinity for guanosine-rich motifs, specifically the (GGN)_n sequence, PUR element. The ubiquitously expressed Pur α protein is involved in many cellular processes, including transcriptional regulation, the cell cycle, oncogenic transformation and postnatal brain development. Pur α binds HIV-1 TAR RNA and activates HIV-1 transcription. Pur α also appears to play a role in the progression of Alzheimer's disease, prostate cancer, fragile X-associated tremor/ataxia syndrome and JC virus. Targeting of Pur α may potentially lead to promising therapeutic approaches for various diseases.

REFERENCES

1. Haas, S., et al. 1995. A 39-kD DNA-binding protein from mouse brain stimulates transcription of myelin basic protein gene in oligodendrocytic cells. *J. Cell Biol.* 130: 1171-1179.
2. Chepenik, L.G., et al. 1998. The single-stranded DNA binding protein, Pur α , binds HIV-1 TAR RNA and activates HIV-1 transcription. *Gene* 210: 37-44.
3. Johnson, E.M. 2003. The Pur protein family: clues to function from recent studies on cancer and AIDS. *Anticancer Res.* 23: 2093-2100.
4. Zeng, L.H., et al. 2004. Characterization of novel Pur α -binding proteins in mouse brain. *Neurochem. Int.* 45: 753-758.
5. Wortman, M.J., et al. 2005. Mechanism of DNA binding and localized strand separation by Pur α and comparison with Pur family member, Pur β . *Biochim. Biophys. Acta* 1743: 64-78.
6. Darbinian, N., et al. 2006. Regulation of the Pur α promoter by E2F-1. *J. Cell. Biochem.* 99: 1052-1063.
7. Jin, P., et al. 2007. Pur α binds to rCGG repeats and modulates repeat-mediated neurodegeneration in a *Drosophila* model of fragile X tremor/ataxia syndrome. *Neuron* 55: 556-564.

CHROMOSOMAL LOCATION

Genetic locus: PURA (human) mapping to 5q31.2; Pura (mouse) mapping to 18 B2.

SOURCE

Pur α (80-L) is a mouse monoclonal antibody raised against recombinant Pur α of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Pur α (80-L) is recommended for detection of Pur α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Pur α siRNA (h): sc-91623, Pur α siRNA (m): sc-152591, Pur α shRNA Plasmid (h): sc-91623-SH, Pur α shRNA Plasmid (m): sc-152591-SH, Pur α shRNA (h) Lentiviral Particles: sc-91623-V and Pur α shRNA (m) Lentiviral Particles: sc-152591-V.

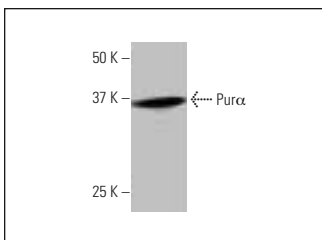
Molecular Weight of Pur α : 39 kDa.

Positive Controls: human skeletal muscle extract: sc-363776.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



Pur α (80-L): sc-130397. Western blot analysis of Pur α expression in human skeletal muscle tissue extract.

SELECT PRODUCT CITATIONS

1. Lee, Y.B., et al. 2013. Hexanucleotide repeats in ALS/FTD form length-dependent RNA foci, sequester RNA binding proteins, and are neurotoxic. *Cell Rep.* 5: 1178-1186.
2. Kuwabara, Y., et al. 2020. Lionheart LincRNA alleviates cardiac systolic dysfunction under pressure overload. *Commun. Biol.* 3: 434.
3. Shi, X., et al. 2021. Analysis of the role of Pur α in the pathogenesis of Alzheimer's disease based on RNA-seq and ChIP-seq. *Sci. Rep.* 11: 12178.
4. Song, C., et al. 2022. Circular RNA Cwc27 contributes to Alzheimer's disease pathogenesis by repressing Pur- α activity. *Cell Death Differ.* 29: 393-406.

RESEARCH USE

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