SANTA CRUZ BIOTECHNOLOGY, INC.

XLαs (M-14): sc-18993

BACKGROUND

The GTP-binding proteins are well-known regulators of cellular functions, including vesicular transport. XLαs, for extra large as, is a paternally expressed, plasma membrane-associated protein consisting of a novel XL domain followed by a as domain. XLαs is specifically associated with the *trans*-Golgi network and occurs selectively in cells containing both the regulated and the constitutive pathway of protein secretion. Like $G_{\alpha s}$, XLαs undergoes a conformational change upon binding of GTPgS. In neuroendocrine cells, the two related G proteins, $G_{\alpha s}$ and XLαs, exhibit distinct properties with regard to receptor-mediated activation, but converge onto the same effector system, adenylyl cyclase. XLαs is found in adult neuroendocrine tissue, with a particularly high level of expression in the pituitary. The human GNAS gene maps to chromosome 20q13.32.

REFERENCES

1. Kehlenbach, R.H., Matthey, J. and Huttner, W.B. 1994. XL α s is a new type of G protein. Nature 372: 804-809.
2. Pasolli, H.A., Klemke, M., Kehlenbach, R.H., Wang, Y. and Huttner, W.B. 2000. Characterization of the extra-large G protein α-subunit XLαs. I. Tissue distribution and subcellular localization. J. Biol. Chem. 275: 33622-33632.
3. Klemke, M., Pasolli, H.A., Kehlenbach, R.H., Offermanns, S., Schultz, G. and Huttner, W.B. 2000. Characterization of the extra-large G protein α-subunit XLαs. II. Signal transduction properties. J. Biol. Chem. 275: 33633-33640.
4. Li, T., Vu, T.H., Zeng, Z.L., Nguyen, B.T., Hayward, B.E., Bonthron, D.T., Hu, J.F. and Hoffman, A.R. 2000. Tissue-specific expression of antisense and sense transcripts at the imprinted Gnas locus. Genomics 69: 295-304.
5. Weinstein, L.S., Yu, S., Warner, D.R. and Liu, J. 2001. Endocrine manifestations of stimulatory G protein α-subunit mutations and the role of genomic imprinting. Endocr. Rev. 22: 675-705.
6. Klemke, M., Kehlenbach, R.H. and Huttner, W.B. 2001. Two overlapping reading frames in a single exon encode interacting proteins—a novel way of gene usage. EMBO J. 20: 3849-3860.
7. Pasolli, H.A. and Huttner, W.B. 2001. Expression of the extra-large G protein α-subunit XLαs in neuroepithelial cells and young neurons during development of the rat nervous system. Neurosci. Lett. 301: 119-122.

CHROMOSOMAL LOCATION

Genetic locus: GNAS (human) mapping to 20q13.32; Gnas (mouse) mapping to 2 H4.

SOURCE

XLαs (M-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of XLαs of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18993 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

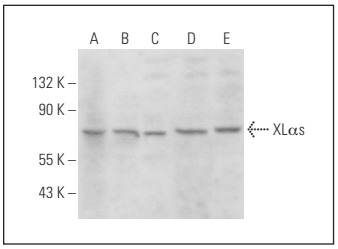
XLαs (M-14) is recommended for detection of XLαs of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with $G_{\alpha s}$.

Positive Controls: A549 cell lysate: sc-2413, Jurkat whole cell lysate: sc-2204 or HEK293 whole cell lysate: sc-45136.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



XLαs (M-14): sc-18993. Western blot analysis of XLαs expression in A549 (**A**), Jurkat (**B**), HEK293 (**C**), NCI-H460 (**D**) and MCF7 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Krechowec, S.O., Burton, K.L., Newlaczyl, A.U., Nunn, N., Vlatkovic, N. and Plagge, A. 2012. Postnatal changes in the expression pattern of the imprinted signalling protein XLαs underlie the changing phenotype of deficient mice. PLoS ONE 7: e29753.

RESEARCH USE

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