SANTA CRUZ BIOTECHNOLOGY, INC.

Aurora A (D-2): sc-373856

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Activation of the oncogenic protein kinase Aurora A regulates meiotic and mitotic cell cycles in eukaryotic cells. Specifically, Aurora A plays a key role in G_2/M progression. Activation occurs via autophosphorylation, and while 14 sites are subject to this, only the threonine residue at position 295 is required for activity. Though autophosphorylation mediates activation, a number of other proteins influence activation, including the spindle assembly factor TPX2 and p53.

REFERENCES

1. Scrittori, L., et al. 2001. pEg2 Aurora A kinase, Histone H3 phosphorylation, and chromosome assembly in *Xenopus* egg extract. J. Biol. Chem. 276: 30002-30010.
2. Arlot-Bonnemains, Y., et al. 2001. Identification of a functional destruction box in the *Xenopus laevis* Aurora A kinase pEg2. FEBS Lett. 508: 149-152.
3. Meraldi, P., et al. 2002. Aurora A overexpression reveals tetraploidization as a major route to centrosome amplification in $p53^{-/-}$ cells. EMBO J. 21: 483-492.

SOURCE

Aurora A (D-2) is a mouse monoclonal antibody raised against a peptide mapping near the C-terminus of Aurora A of *Xenopus laevis* origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Aurora A (D-2) is available conjugated to agarose (sc-373856 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373856 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373856 PE), fluorescein (sc-373856 FITC), Alexa Fluor® 488 (sc-373856 AF488), Alexa Fluor® 546 (sc-373856 AF546), Alexa Fluor® 594 (sc-373856 AF594) or Alexa Fluor® 647 (sc-373856 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373856 AF680) or Alexa Fluor® 790 (sc-373856 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373856 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Aurora A (D-2) is recommended for detection of Aurora A of *Xenopus* 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).

Aurora A (D-2) is also recommended for detection of Aurora A in additional species, including equine, canine, bovine, porcine and avian.

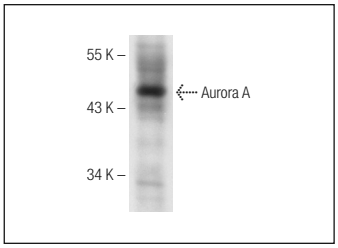
Molecular Weight of Aurora A: 46 kDa.

Positive Controls: XLK-WG whole cell lysate: sc-364801.

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



Aurora A (D-2): sc-373856. Western blot analysis of Aurora A expression in XLK-WG whole cell lysate.

SELECT PRODUCT CITATIONS

1. Kim, S.R., et al. 2016. H3S10 phosphorylation-mediated transcriptional regulation by Aurora kinase A. Biochem. Biophys. Res. Commun. 469: 22-28.
2. Magiera, K., Tet al. 2017. Lithocholic acid hydroxyamide destabilizes cyclin D1 and induces G_0/G_1 arrest by inhibiting deubiquitinase USP2a. Cell Chem. Biol. 24: 458-470.e18.
3. Payne, R., et al. 2018. MLN8237 treatment in an orthoxenograft murine model for malignant peripheral nerve sheath tumors. J. Neurosurg. E-published.
4. Park, J.W., et al. 2018. AURKA suppresses leukemic THP-1 cell differentiation through inhibition of the KDM6B pathway. Mol. Cells 41: 444-453.
5. Martínez-León, E., et al. 2019. Protein kinase D1 inhibition interferes with mitosis progression. J. Cell. Physiol. 234: 20510-20519.
6. Chen, J., et al. 2022. Therapeutic targeting RORγ with natural product N-hydroxyapiosporamide for small cell lung cancer by reprogramming neuroendocrine fate. Pharmacol. Res. 178: 106160.

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.