

# Pim-2 (1D12): sc-13514

## BACKGROUND

The Pim-2 gene product (provirus integration site for Moloney murine leukemia virus), is a serine/threonine kinase that is capable of autophosphorylation. Human transcripts for Pim-2 have been detected in hematopoietic lineages as well as leukemic and lymphoid cells (K-562, HL-60, RAJ1, SW480, testis, small intestine and colon). Additionally, Pim-2 kinase is found at moderate levels and is distributed evenly throughout the brain. Pim-2 kinase is implicated in tumor phenotypes and may be involved in the formation and preservation of long-term potentiation (LTP), a profuse, activity-dependent enhancement of synaptic efficacy that is implicated in long-term memory.

## CHROMOSOMAL LOCATION

Genetic locus: PIM2 (human) mapping to Xp11.23; Pim2 (mouse) mapping to X A1.1.

## SOURCE

Pim-2 (1D12) is a mouse monoclonal antibody raised against full length of Pim-2 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pim-2 (1D12) is available conjugated to agarose (sc-13514 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13514 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13514 PE), fluorescein (sc-13514 FITC), Alexa Fluor<sup>®</sup> 488 (sc-13514 AF488), Alexa Fluor<sup>®</sup> 546 (sc-13514 AF546), Alexa Fluor<sup>®</sup> 594 (sc-13514 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-13514 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-13514 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-13514 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Pim-2 (1D12) is recommended for detection of Pim-2 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Pim-2 siRNA (h): sc-39145, Pim-2 siRNA (m): sc-36227, Pim-2 shRNA Plasmid (h): sc-39145-SH, Pim-2 shRNA Plasmid (m): sc-36227-SH, Pim-2 shRNA (h) Lentiviral Particles: sc-39145-V and Pim-2 shRNA (m) Lentiviral Particles: sc-36227-V.

Molecular Weight of Pim-2 human short isoform: 34 kDa.

Molecular Weight of Pim-2 mouse short/medium/long isoform: 34/38/40 kDa.

Positive Controls: Pim-2 (h4): 293T Lysate: sc-111264 or CTLL-2 cell lysate: sc-2242.

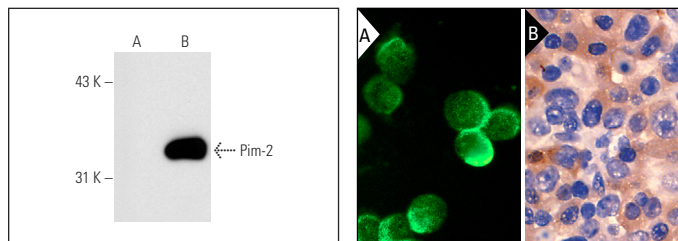
## RESEARCH USE

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

## STORAGE

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

## DATA



Pim-2 (1D12): sc-13514. Western blot analysis of Pim-2 expression in non-transfected: sc-117752 (A) and human Pim-2 transfected: sc-111264 (B) 293T whole cell lysates.

Pim-2 (1D12): sc-13514. Immunofluorescence staining of methanol-fixed CTLL-2 cells showing membrane staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lymphoma tissue showing cytoplasmic localization (B).

## SELECT PRODUCT CITATIONS

1. Fox, C.J., et al. 2003. The serine/threonine kinase Pim-2 is a transcriptionally regulated apoptotic inhibitor. *Genes Dev.* 17: 1841-1854.
2. Okada, K., et al. 2017. FLT3-ITD induces expression of Pim kinases through STAT5 to confer resistance to the PI3K/Akt pathway inhibitors on leukemic cells by enhancing the mTORC1/Mcl-1 pathway. *Oncotarget* 9: 8870-8886.
3. Daenthanasamak, A., et al. 2018. PIM-2 protein kinase negatively regulates T cell responses in transplantation and tumor immunity. *J. Clin. Invest.* 128: 2787-2801.
4. Mazzer, L., et al. 2019. Functional interplay between NIK and c-Abl kinases limits response to Aurora inhibitors in multiple myeloma. *Haematologica* 104: 2465-2481.
5. Lu, C., et al. 2020. Fructose-1, 6-bisphosphatase 1 interacts with NFκB p65 to regulate breast tumorigenesis via PIM2 induced phosphorylation. *Theranostics* 10: 8606-8618.
6. James, O.J., et al. 2021. IL-15 and PIM kinases direct the metabolic programming of intestinal intraepithelial lymphocytes. *Nat. Commun.* 12: 4290.
7. Ko, R., et al. 2022. Pim1 promotes IFN-β production by interacting with IRF3. *Exp. Mol. Med.* 54: 2092-2103.
8. Metwally, A.M., et al. 2023. Lymphocyte to monocyte ratio predicts survival and is epigenetically linked to miR-222-3p and miR-26b-5p in diffuse large B cell lymphoma. *Sci. Rep.* 13: 4899.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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