SANTA CRUZ BIOTECHNOLOGY, INC.

PILR-α/β (H-2): sc-390847

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell signaling pathways are mediated by the interaction between activating and inhibiting processes which are generally regulated by an activating/inhibiting receptor pair. PILR-β (paired immunoglobin-like type 2 receptor β), also known as FDFACT, is a 227 amino acid single-pass type I membrane protein that contains one Ig-like V-type (immunoglobulin-like) domain. Existing as multiple alternatively spliced isoforms, PILR-β acts as the non-ITIM-bearing activating member of the PILR-α/PILR-β receptor pair and functions to activate cell signaling cascades that involve adaptor molecules on the cell surface. The gene encoding both PILR-α and PILR-β are in a tandem head-to-tail orientation on human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome.

REFERENCES

1. Mousseau, D.D., et al. 2000. PILRα, a novel immunoreceptor tyrosine-based inhibitory motif-bearing protein, recruits SHP-1 upon tyrosine phosphorylation and is paired with the truncated counterpart PILRβ. J. Biol. Chem. 275: 4467-4474.
2. Shiratori, I., et al. 2004. Activation of natural killer cells and dendritic cells upon recognition of a novel CD99-like ligand by paired immunoglobulin-like type 2 receptor. J. Exp. Med. 199: 525-533.
3. Zhu, Y.X., et al. 2004. The SH3-SAM adaptor HACS1 is up-regulated in B cell activation signaling cascades. J. Exp. Med. 200: 737-747.
4. Koga, T., et al. 2004. Costimulatory signals mediated by the ITAM motif cooperate with RANKL for bone homeostasis. Nature 428: 758-763.
5. Wilson, M.D., et al. 2006. Comparative analysis of the paired immunoglobulin-like receptor (PILR) locus in six mammalian genomes: duplication, conversion, and the birth of new genes. Physiol. Genomics 27: 201-218.

CHROMOSOMAL LOCATION

Genetic locus: PILRA/PILRB (human) mapping to 7q22.1; Pilra/Pilrb1/Pilrb2 (mouse) mapping to 5 G2.

SOURCE

PILR-α/β (H-2) is a mouse monoclonal antibody raised against amino acids 25-127 mapping near the N-terminus of PILR-β of mouse origin.

PRODUCT

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

PILR-α/β (H-2) is available conjugated to agarose (sc-390847 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390847 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390847 PE), fluorescein (sc-390847 FITC), Alexa Fluor® 488 (sc-390847 AF488), Alexa Fluor® 546 (sc-390847 AF546), Alexa Fluor® 594 (sc-390847 AF594) or Alexa Fluor® 647 (sc-390847 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390847 AF680) or Alexa Fluor® 790 (sc-390847 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PILR-α/β (H-2) is recommended for detection of PILR-α/β 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).

Molecular Weight of PILR-α: 34 kDa.

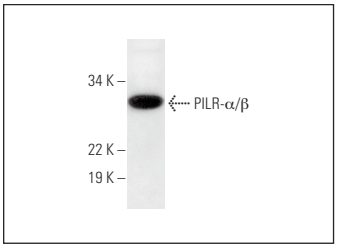
Molecular Weight of PILR-β: 25 kDa.

Positive Controls: SP2/0 whole cell lysate: sc-364795.

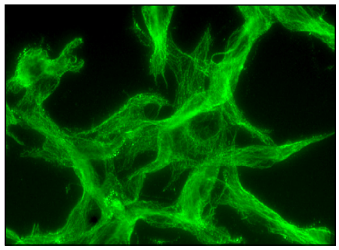
RECOMMENDED SUPPORT REAGENTS

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



PILR-α/β (H-2): sc-390847. Western blot analysis of PILR-α/β expression in SP2/0 whole cell lysate.



PILR-α/β (H-2): sc-390847. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane 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.