

# p-CD45 (Ser 940)-R: sc-12951-R

## BACKGROUND

CD45 has been identified as a transmembrane glycoprotein, broadly expressed among hematopoietic cells. Eight isoforms of CD45 are distributed throughout the immune system according to cell type. The variation in these isoforms is localized to the extracellular domain of CD45, while the intracellular domain is conserved. CD45 functions as a phospho-tyrosine phosphatase, a vital component for efficient tyrosine phosphorylation induction by the TCR/CD3 complex. The tyrosine phosphatase activity of CD45 is contained within the conserved intracellular domain. Src and Syk family protein tyrosine kinases are utilized by the TCR/CD3 complex to initiate signaling cascades. Several members of these two families, including Lck, Fyn and ZAP-70, have been implicated as physiological substrates of CD45.

## REFERENCES

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3. Hathcock, K.S., et al. 1993. CD45 expression by murine B cells and T cells: alteration of CD45 isoforms in subpopulations of activated B cells. *Immunol. Res.* 12: 21-36.
4. Hovis, R.R., et al. 1993. Rescue of signaling by a chimeric protein containing the cytoplasmic domain of CD45. *Science* 260: 544-546.
5. Trowbridge, I.S., et al. 1994. CD45: an emerging role as a protein-tyrosine phosphatase required for lymphocyte activation and development. *Annu. Rev. Immunol.* 12: 85-116.
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## CHROMOSOMAL LOCATION

Genetic locus: PTPRC (human) mapping to 1q31-q32; Ptprc (mouse) mapping to 1 E4.

## SOURCE

p-CD45 (Ser 940)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 940 of CD45 of human origin.

## 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-12951 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-CD45 (Ser 940)-R is recommended for detection of Ser 940 phosphorylated CD45 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of p-CD45: 180-220 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.