The T cell antigen receptor (TCR) recognizes foreign antigens and translates such recognition events into intracellular signals that elicit a change in the cell from a dormant to an activated state. TCR is a heterodimer composed of either α and β or γ and δ chains. The vast majority of circulating T cells (95%) express the α/β heterodimer while roughly 2-5% express the γ/δ heterodimer. CD3 chains and the CD4 or CD8 coreceptors are also required for efficient signal transduction through the TCR. The TCR is expressed on T helper and T cytotoxic cells that can be distinguished by their expression of CD4 and CD8. T helper cells express CD4 proteins and T cytotoxic cells display CD8. CD4 is also expressed on cortical cells, mature medullary thymocytes, microglial cells and dendritic cells. CD4, also designated T4 and Leu 3, is a membrane glycoprotein that contains four extracellular immunoglobulin-like domains. The TCR, in association with CD4, can bind class II MHC molecules presented by the antigen-presenting cells. The CD4 protein functions by increasing the avidity of the interaction between the TCR and an antigen-class II MHC complex.

BACKGROUND

Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TCR β (G-11) is available conjugated to agarose (sc-5277 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5277 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5277 PE), fluorescein (sc-5277 FITC), Alexa Fluor® 488 (sc-5277 AF488), Alexa Fluor® 546 (sc-5277 AF546), Alexa Fluor® 594 (sc-5277 AF594) or Alexa Fluor® 647 (sc-5277 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5277 AF680) or Alexa Fluor® 790 (sc-5277 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TCR β (G-11) is recommended for detection of TCR β of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TCR β siRNA (h): sc-36629, TCR β shRNA Plasmid (h): sc-36629-SH and TCR β shRNA (h) Lentiviral Particles: sc-36629-V.

Molecular Weight of TCR β: 39 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233 or CCRF-CEM cell lysate: sc-2225.

RESEARCH USE

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