SANTA CRUZ BIOTECHNOLOGY, INC.

# INDOL1 (P-13): sc-87165

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Tryptophan is an essential amino acid that is necessary for protein synthesis, serotonin and melatonin biosynthesis and energy production; energy being a product of the catabolism of tryptophan through the kynurenine pathway. The kynurenine pathway has many downstream metabolites which may be a part of physiological or patho-physiological processes. INDOL1 (indoleamine 2,3-dioxygenase-like protein 1) is an enzyme that catalyzes the first step of the kynurenine pathway of tryptophan metabolism. INDOL1 is also known as IDO2 (indoleamine 2,3-dioxygenase 2) and is a 407 amino acid protein that is expressed in various tissues, including liver, small intestine, spleen, placenta, thymus, lung, brain, kidney, colon and dendritic cells. INDOL1 is selectively inhibited by D-1MT (1-methyl-δ-tryptophan), which also inhibits IDO (indoleamine 2,3-dioxygenase) and is significant because IDO expression causes suppression of T cell responses to tumors in dendritic cells. The inhibition of INDOL1 by D-1MT suggests a common function in immunomodulation. In the human INDOL1 gene, two single nucleotide polymorphisms have been detected which abolish the enzymatic function of INDOL1.

## REFERENCES


1. Fernstrom, J.D. and Wurtman, R.J. 1971. Brain serotonin content: physiological dependence on plasma tryptophan levels. Science 173: 149-152.
2. Fox, C.J., et al. 2005. Fuel feeds function: energy metabolism and the T-cell response. Nat. Rev. Immunol. 5: 844-852.
3. Metz, R., et al. 2007. Novel tryptophan catabolic enzyme IDO2 is the preferred biochemical target of the antitumor indoleamine 2,3-dioxygenase inhibitory compound D-1-methyl-tryptophan. Cancer Res. 67: 7082-7087.
4. Murray, M.F. 2007. The human indoleamine 2,3-dioxygenase gene and related human genes. Curr. Drug Metab. 8: 197-200.
5. Ball, H.J., et al. 2007. Characterization of an indoleamine 2,3-dioxygenase-like protein found in humans and mice. Gene 396: 203-213.
6. Löb, S. and Königsrainer, A. 2008. Is IDO a key enzyme bridging the gap between tumor escape and tolerance induction? Langenbecks Arch. Surg. 393: 995-1003.
7. Prendergast, G.C. 2008. Immune escape as a fundamental trait of cancer: focus on IDO. Oncogene 27: 3889-3900.


## CHROMOSOMAL LOCATION

Genetic locus: IDO2 (human) mapping to 8p11.21.

## SOURCE

INDOL1 (P-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of INDOL1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87165 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

INDOL1 (P-13) is recommended for detection of INDOL1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

INDOL1 (P-13) is also recommended for detection of INDOL1 in additional species, including equine and porcine.

Suitable for use as control antibody for INDOL1 siRNA (h): sc-77706, INDOL1 shRNA Plasmid (h): sc-77706-SH and INDOL1 shRNA (h) Lentiviral Particles: sc-77706-V.

Molecular Weight of INDOL1: 45 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## 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 A Blocking Reagent: sc-2333 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 or our catalog for detailed protocols and support products.