**BACKGROUND**

DIO1 (deiodinase, iodothyronine, type I), also known as TTXD1, ITD1 or 5DI, is a 249 amino acid single-pass membrane protein that localizes to the endoplasmic reticulum and belongs to the iodothyronine deiodinase family. Expressed as nine alternatively spliced isoforms, DIO1 functions as a thiol-dependent propylthiouracil-sensitive oxidoreductase that converts the prohormone thyroxine (T4) to bioactive 3,3',5-triiodothyronine (T3), thereby playing a role in thyroid hormone (TH) activation. Human DIO1 shares 88% sequence similarity with its rat counterpart, suggesting a conserved role between species. The gene encoding DIO1 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: DIO1 (human) mapping to 1p32.3; Dio1 (mouse) mapping to 4 C7.

**SOURCE**

DIO1 (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 78-99 within an internal region of DIO1 of mouse origin.

**PRODUCT**

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

Blocking peptide available for competition studies, sc-515198 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**APPLICATIONS**

DIO1 (B-7) is recommended for detection of DIO1 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).

Suitable for use as control antibody for DIO1 siRNA (h): sc-77146, DIO1 siRNA (m): sc-77147, DIO1 shRNA Plasmid (h): sc-77146-SH, DIO1 shRNA Plasmid (m): sc-77147-SH, DIO1 shRNA (h) Lentiviral Particles: sc-77146-V and DIO1 shRNA (m) Lentiviral Particles: sc-77147-V.

Molecular Weight of DIO1: 28 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186.

**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, TBS Blotto A Blocking Reagent: sc-2333 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**

DIO1 (B-7): sc-515198. Western blot analysis of DIO1 expression in HeLa (A), c4 (B), A549 (C), U-937 (D) and Hep G2 (E) whole cell lysates.

**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 website at www.scbt.com for detailed protocols and support products.