# SANTA CRUZ BIOTECHNOLOGY, INC.

# Treacle (H-6): sc-374536



## BACKGROUND

Treacle is a serine/alanine-rich 1,411-amino acid nuclear phosphoprotein that interacts with upstream binding factor (UBF) and affects transcription of the ribosomal DNA gene. Treacle is also involved in early embryonic development, particularly in the craniofacial complex, and may play a role in nucleolar-cytoplasmic transport. The Treacle protein contains three domains with unique N- and C-termini and a large central repeat domain. Mutations in TCOF1, the gene that encodes for Treacle, cause Treacher Collins-Franceschetti syndrome (TCS), a disorder characterized by defects in craniofacial development. Symptoms of TCS include conductive hearing loss, hypoplasia of the mandible and maxilla, downward sloping palpebral fissures and cleft palate.

## **CHROMOSOMAL LOCATION**

Genetic locus: TCOF1 (human) mapping to 5q32.

## SOURCE

Treacle (H-6) is a mouse monoclonal antibody raised against amino acids 1-90 mapping at the N-terminus of Treacle of human origin.

# PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-374536 X, 200  $\mu$ g/0.1 ml.

Treacle (H-6) is available conjugated to agarose (sc-374536 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374536 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374536 PE), fluorescein (sc-374536 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374536 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374536 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374536 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374536 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374536 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374536 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

# **APPLICATIONS**

Treacle (H-6) is recommended for detection of Treacle (Treacher Collins syndrome protein) of 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), 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 Treacle siRNA (h): sc-61707, Treacle shRNA Plasmid (h): sc-61707-SH and Treacle shRNA (h) Lentiviral Particles: sc-61707-V.

Treacle (H-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of Treacle isoforms: 156/152/144/97 kDa.

Molecular Weight (observed) of Treacle: 183 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, SUP-T1 whole cell lysate: sc-364796 or Caco-2 cell lysate: sc-2262.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

# DATA



Treacle (H-6): sc-374536. Western blot analysis of Treacle expression in Jurkat nuclear extract (A) and SUP-T1 (B), GA-10 (C) and Caco-2 (D) whole cell lysates.



Treacle (H-6): sc-374536. Immunofluorescence staining of formalin-fixed A-431 cells showing nucleolar and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear staining of glandular cells and lymphoid cells (**B**).

#### **SELECT PRODUCT CITATIONS**

- Ciccia, A., et al. 2014. Treacher Collins syndrome TCOF1 protein cooperates with NBS1 in the DNA damage response. Proc. Natl. Acad. Sci. USA 111: 18631-18636.
- Monteiro, L.F. and Forti, F.L. 2019. Network analysis of DUSP12 partners in the nucleus under genotoxic stress. J. Proteomics 197: 42-52.
- Fages, J., et al. 2020. JMJD6 participates in the maintenance of ribosomal DNA integrity in response to DNA damage. PLoS Genet. 16: e1008511.
- Nie, X., et al. 2021. TRF2 recruits nucleolar protein TCOF1 to coordinate telomere transcription and replication. Cell Death Differ. 28: 1062-1075.
- Miyake, S., et al. 2022. Inhibition of mitochondrial complex III or dihydroorotate dehydrogenase (DHODH) triggers formation of poly(A)+ RNA foci adjacent to nuclear speckles following activation of ATM (ataxia telangiectasia mutated). RNA Biol. 19: 1244-1255.
- Sochacka, M., et al. 2022. FGF12 is a novel component of the nucleolar NOLC1/TCOF1 ribosome biogenesis complex. Cell Commun. Signal. 20: 182.
- 7. Gędaj, A., et al. 2024. The intracellular interplay between galectin-1 and FGF12 in the assembly of ribosome biogenesis complex. Cell Commun. Signal. 22: 175.

#### **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.

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