

# Nodal (G-10): sc-373910

## BACKGROUND

The transforming growth factor  $\beta$  (TGF $\beta$ ) superfamily is composed of numerous growth and differentiation factors, including TGF $\beta$ 1-3, Mullerian inhibiting substance (MIS), growth/differentiation factor (GDF) 1-9, bone morphogenic protein (BMP) 2-8, glial cell line-derived neurotrophic factor (GDNF), Inhibin  $\alpha$ ,  $\beta$ -A,  $\beta$ -B and  $\beta$ -C, Lefty and Nodal. Members of the TGF $\beta$  superfamily are involved in embryonic development and adult tissue homeostasis. Ectodermal cells through the primitive streak delaminate and differentiate into mesoderm during gastrulation. Nodal expression is detectable in the primitive streak at the time of mesoderm formation, indicating a potential role for Nodal in mesoderm formation. Nodal has also been shown to be involved in the direction of heart looping and embryonic turning.

## CHROMOSOMAL LOCATION

Genetic locus: NODAL (human) mapping to 10q22.1; Nodal (mouse) mapping to 10 B4.

## SOURCE

Nodal (G-10) is a mouse monoclonal antibody raised against amino acids 238-347 mapping at the C-terminus of Nodal 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.

Nodal (G-10) is available conjugated to agarose (sc-373910 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373910 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373910 PE), fluorescein (sc-373910 FITC), Alexa Fluor® 488 (sc-373910 AF488), Alexa Fluor® 546 (sc-373910 AF546), Alexa Fluor® 594 (sc-373910 AF594) or Alexa Fluor® 647 (sc-373910 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373910 AF680) or Alexa Fluor® 790 (sc-373910 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Nodal (G-10) is recommended for detection of precursor and mature Nodal of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 Nodal siRNA (h): sc-45478, Nodal siRNA (m): sc-39795, Nodal shRNA Plasmid (h): sc-45478-SH, Nodal shRNA Plasmid (m): sc-39795-SH, Nodal shRNA (h) Lentiviral Particles: sc-45478-V and Nodal shRNA (m) Lentiviral Particles: sc-39795-V.

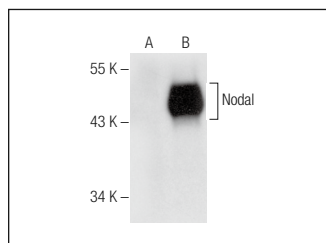
Molecular Weight of Nodal: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human Nodal transfected HEK293T whole cell lysate.

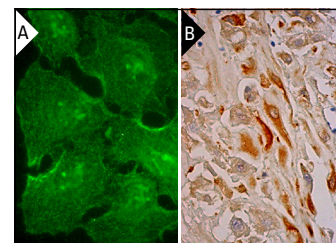
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Nodal (G-10): sc-373910. Western blot analysis of Nodal expression in non-transfected (A) and human Nodal transfected (B) HEK293T whole cell lysates.



Nodal (G-10): sc-373910. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of subset of decidual cells (B).

## SELECT PRODUCT CITATIONS

- Meseguer, S., et al. 2018. The MELAS mutation m.3243A>G promotes reactivation of fetal cardiac genes and an epithelial-mesenchymal transition-like program via dysregulation of miRNAs. *Biochim. Biophys. Acta* 1864: 3022-3037.
- Alwhaibi, A., et al. 2019. Nodal pathway activation due to Akt1 suppression is a molecular switch for prostate cancer cell epithelial-to-mesenchymal transition and metastasis. *Biochem. Pharmacol.* 168: 1-13.
- Wu, T., et al. 2023. Nodal promotes colorectal cancer survival and metastasis through regulating SCD1-mediated ferroptosis resistance. *Cell Death Dis.* 14: 229.
- Shen, L., et al. 2023. CVM-1118 (foslinanib), a 2-phenyl-4-quinolone derivative, promotes apoptosis and inhibits vasculogenic mimicry via targeting TRAP1. *Pathol. Oncol. Res.* 29: 1611038.

## 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.