

#2530 Store at -20°C

Wnt5a/b (C27E8) Rabbit mAb

100 µl
 (10 Western mini-blot)



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New 05/07

This product is for *in vitro* research use only and is not intended for use in humans or animals.

Applications	Species Cross-Reactivity	Molecular Wt.	Source	Isotype
W	H, M	45 kDa	Rabbit*	IgG

Background: The Wnt family includes several secreted glycoproteins that play important roles in animal development (1). There are 19 Wnt genes in the human genome that encode functionally distinct Wnt proteins (2). Wnt members bind to the Frizzled family of seven-pass transmembrane proteins and activate several signaling pathways (3). The canonical Wnt/ β -catenin pathway also requires a coreceptor from the low-density lipoprotein receptor family (4). Aberrant activation of Wnt signaling pathways is involved in several types of cancers (5).

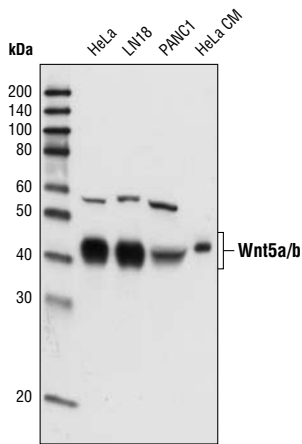
Wnt5a has been shown to signal through the canonical Wnt pathways as well as through non-canonical pathways and is up-regulated in various types of human cancers (6–8). In melanoma, Wnt5a is thought to directly affect cell motility and metastasis (9).

Specificity/Sensitivity: Wnt5a/b (C27E8) Rabbit mAb detects endogenous levels of Wnt5a and Wnt5b proteins. This antibody cross-reacts with an unidentified protein between 55 and 60 kDa.

Source/Purification: Monoclonal antibodies were generated by immunizing rabbits with a synthetic peptide (Blue Carrier-coupled) corresponding to residues surrounding Glu176 of human Wnt5a protein.

Background References:

- Cadigan, K.M. and Nusse, R. (1997) *Genes Dev.* 11, 3286–3305.
- Moon, R.T. et al. (1997) *Trends Genet.* 13, 157–162.
- Kohn, A.D. and Moon, R.T. (2004) *Cell Calcium* 38, 439–446.
- Logan, C.Y. and Nusse, R. (2004) *Annu. Rev. Cell Dev. Biol.* 20, 781–810.
- Giles, R.H. et al. (2003) *Biochim. Biophys. Acta.* 1653, 1–24.
- Mikels, A.J. and Nusse, R. (2006) *PLoS Biol.* 4, e115.
- Katoh, M. and Katoh, M. (2007) *Int. J. Mol. Med.* 19, 273–278.
- Katoh, M. (2005) *Oncol. Rep.* 14, 1583–1588.
- Weeraratna, A.T. et al. (2002) *Cancer Cell* 1, 279–288.



Western blot analysis of total cell lysates from HeLa, LN18, PANC1 cells and HeLa cells conditioned medium (CM) using Wnt5a/b (C27E8) Rabbit mAb.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

***Anti-rabbit secondary antibodies must be used to detect this antibody**

Recommended Antibody Dilutions:
Western blotting 1:1000

- Companion Products:**
- Wnt3a Antibody #2391
 - Wnt5a Antibody #2392
 - LRP6 (C5C7) Rabbit mAb #2560
 - Phospho-LRP6 (Ser1490) Antibody #2568
 - Dvl2 (30D2) Rabbit mAb #3224
 - Dvl2 Antibody #3216
 - Dvl3 Antibody #3218
 - Naked1 (C30F10) Rabbit mAb #2201
 - Naked1 Antibody #2262
 - Axin2 (76G6) Rabbit mAb #2151
 - TCF1 (C63D9) Rabbit mAb #2203
 - TCF1 (C46C7) Rabbit mAb #2206
 - LEF1 (C12A5) Rabbit mAb #2230
 - LEF1 (C18A7) Rabbit mAb #2286
 - TCF4 (C9B9) Rabbit mAb #2565
 - β -Catenin Antibody #9562
 - Phototope[®]-HRP Western Blot Detection System, Anti-rabbit IgG, HRP-linked Antibody #7071
 - Anti-rabbit IgG, HRP-linked Antibody #7074
 - Prestained Protein Marker, Broad Range (Premixed Format) #7720
 - Biotinylated Protein Ladder Detection Pack #7727
 - 20X LumiGLO[®] Reagent and 20X Peroxide #7003

IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry IC—Immunocytochemistry IF—Immunofluorescence
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken X—Xenopus
 F—Flow cytometry E—ELISA D—DELFI[®]
 Z—zebra fish B—bovine All—all species expected

Western Immunoblotting Protocol (Primary Ab Incubation In BSA)

For Western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

A Solutions and Reagents

NOTE: Prepare solutions with Milli-Q or equivalently purified water.

- 1X Phosphate Buffered Saline (PBS)
- 1X SDS Sample Buffer:** 62.5 mM Tris-HCl (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v bromophenol blue or phenol red
- Transfer Buffer:** 25 mM Tris base, 0.2 M glycine, 20% methanol (pH 8.5)
- 10X Tris Buffered Saline (TBS):** To prepare 1 liter of 10X TBS: 24.2 g Tris base, 80 g NaCl; adjust pH to 7.6 with HCl (use at 1X).
- Nonfat Dry Milk (weight to volume [w/v])
- Blocking Buffer:** 1X TBS, 0.1% Tween-20 with 5% w/v nonfat dry milk; for 150 ml, add 15 ml 10X TBS to 135 ml water, mix. Add 7.5 g nonfat dry milk and mix well. While stirring, add 0.15 ml Tween-20 (100%).
- Wash Buffer:** 1X TBS, 0.1% Tween-20 (TBS/T)
- Bovine Serum Albumin (BSA)
- Primary Antibody Dilution Buffer:** 1X TBS, 0.1% Tween-20 with 5% BSA; for 20 ml, add 2 ml 10X TBS to 18 ml water, mix. Add 1.0 g BSA and mix well. While stirring, add 20 µl Tween-20 (100%).
- Phototope[®]-HRP Western Blot Detection System #7071:** Includes biotinylated protein ladder, secondary anti-rabbit (#7074) antibody conjugated to horseradish peroxidase (HRP), anti-biotin antibody conjugated to HRP, LumiGLO[®] chemiluminescent reagent and peroxide.
- Prestained Protein Marker, Broad Range (Premixed Format) #7720
- Biotinylated Protein Ladder Detection Pack #7727
- Blotting Membrane:** This protocol has been optimized for nitrocellulose membranes, which CST recommends. PVDF membranes may also be used.

B Protein Blotting

A general protocol for sample preparation is described below.

- Treat cells by adding fresh media containing regulator for desired time.
- Aspirate media from cultures; wash cells with 1X PBS; aspirate.
- Lyse cells by adding 1X SDS sample buffer (100 µl per well of 6-well plate or 500 µl per plate of 10 cm diameter plate). Immediately scrape the cells off the plate and transfer the extract to a microcentrifuge tube. Keep on ice.
- Sonicate for 10–15 seconds to shear DNA and reduce sample viscosity.
- Heat a 20 µl sample to 95–100°C for 5 minutes; cool on ice.
- Microcentrifuge for 5 minutes.
- Load 20 µl onto SDS-PAGE gel (10 cm x 10 cm).

NOTE: CST recommends loading prestained molecular weight markers (#7720, 10 µl/lane) to verify electrotransfer and biotinylated protein ladder (#7727, 10 µl/lane) to determine molecular weights.

- Electrotransfer to nitrocellulose or PVDF membrane.

C Membrane Blocking and Antibody Incubations

NOTE: Volumes are for 10 cm x 10 cm (100 cm²) of membrane; for different sized membranes, adjust volumes accordingly.

- (Optional) After transfer, wash nitrocellulose membrane with 25 ml TBS for 5 minutes at room temperature.
- Incubate membrane in 25 ml of blocking buffer for 1 hour at room temperature.
- Wash three times for 5 minutes each with 15 ml of TBS/T.
- Incubate membrane and primary antibody (at the appropriate dilution) in 10 ml primary antibody dilution buffer with gentle agitation overnight at 4°C.
- Wash three times for 5 minutes each with 15 ml of TBS/T.
- Incubate membrane with HRP-conjugated secondary antibody (1:2000) and HRP-conjugated anti-biotin antibody (1:1000) to detect biotinylated protein markers in 10 ml of blocking buffer with gentle agitation for 1 hour at room temperature.
- Wash three times for 5 minutes each with 15 ml of TBS/T.

D Detection of Proteins

- Incubate membrane with 10 ml LumiGLO[®] (0.5 ml 20X LumiGLO[®], 0.5 ml 20X Peroxide and 9.0 ml Milli-Q water) with gentle agitation for 1 minute at room temperature.

NOTE: LumiGLO[®] substrate can be further diluted if signal response is too fast.

- Drain membrane of excess developing solution (do not let dry), wrap in plastic wrap and expose to x-ray film. An initial 10-second exposure should indicate the proper exposure time.

NOTE: Due to the kinetics of the detection reaction, signal is most intense immediately following LumiGLO[®] incubation and declines over the following 2 hours.