Revision 4

Store at -20C

#12480

GM130 (D6B1) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, IP, IF-IC	H Mk	Endogenous	140	Rabbit IgG	#Q08379	2801

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:50 - 1:250
Immunoprecipitation	1:100
Immunofluorescence (Immunocytochemistry)	1:3200

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.

Specificity/Sensitivity

GM130 (D6B1) XP® Rabbit mAb recognizes endogenous levels of total GM130 protein. This antibody may cross-react with a protein of unknown origin at 30 kDa.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr185 of human GM130 protein.

Background

The Golgi apparatus functions in the modification, organization, and transport of proteins and membranes targeted to other parts of the cell, such as the plasma membrane, lysosomes, and endosomes. This regulated transport is important for appropriate protein localization, secretion, and signal transduction. Members of the Golgin family of proteins, including GM130, Giantin, p115, and GRASP65, are defined by their presence in the Golgi matrix and by their long coiled-coil domains. Golgin function, which is regulated in part by small GTPases of the Rab and Arl families, includes establishing and maintaining Golgi structure and transport (reviewed in 1). The Golgi cisternae are stacked and linked laterally to form a ribbon. GRASP65 and GM130 are required for membrane fusion events that mediate ribbon formation during Golgi assembly. These lateral fusion events allow for uniform distribution of Golgi enzymes (2). GM130 and Giantin interact with the transport factor p115 to facilitate endoplasmic reticulum (ER)-Golgi transport (3). GM130 is also involved in the transport of the ether-a-go-go-related (hERG) potassium ion channel. Inappropriate hERG localization may be an underlying cause of long QT syndrome, a hereditary and potentially fatal cardiac arrhythmia (4). Further, GM130 was implicated in signal transduction regulating invasion, migration, and cell polarization via its interaction with and activation of serine/threonine kinases YSK1 and Mst4 (5).

Background References

1. Barr, F.A. and Short, B. (2003) *Curr. Opin. Cell Biol.* 15, 405-413.
2. Puthenveedu, M.A. et al. (2006) *Nat. Cell Biol.* 8, 238-248.
3. Alvarez, C. et al. (2001) *J. Biol. Chem.* 276, 2693-2700.
4. Roti, E.C. et al. (2002) *J. Biol. Chem.* 277, 47779-47785.
5. Preisinger, C. et al. (2004) *J. Cell Biol.* 164, 1009-1020.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **Mk:** Monkey

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