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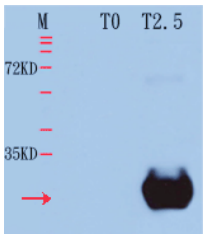
Anti-Protein tyrosine phosphatase (PRL-3), Rabbit-Monoclonal Antibody

Catalog No. GB-63023 **Quantity:** 1.2 ml **Antigen species:** Human
Reactivity: Human, rat, mouse **Conjugate:** unconjugated
Applications tested: WB, ELISA **Host species:** rabbit **Type:** monoclonal antibody
Form: cultured medium supernatant

Target description

PRL-3 is a newly identified metastasis-related gene, which codes a 22 KDa nonclassical protein tyrosine phosphatase with a C-terminal prenylation motif. It is located at the cytoplasmic membrane when prenylated and in the nucleus when nonpreylated. PRL-3 has at least 75% amino-acid sequence similarity with PRL-1 and PRL-2, the other two members of the PRL family. Recently, Zeng and colleagues found that Chinese hamster ovary cells stably expressing PRL-3 exhibited enhanced motility, invasive activity, and induced metastatic tumor formation in nude mice. And in clinical study, PRL-3 is consistently overexpressed in liver metastasis in colorectal cancer cells. These findings suggest PRL-3 is a new target for the early diagnosis of metastasis as well as the drug discovery.



T_0 : before IPTG induction of the protein expression
$T_{2.5}$: IPTG induction of the recombinant human PRL-3 (PRL-3, 23.9 kDa) expression for 2.5 hours.
10X dilution of the first antibody: (culture medium).
X-ray film exposed 5 seconds with the ECL kit.

Antigen

This monoclonal antibody was raised by immunizing rabbit with a synthetic peptide located on the putative dual specificity phosphatase, catalytic domain (aa 24-138) of human PRL-3.

Application

The antibody specificity was assayed by ELISA with the synthetic human PRL-3 peptide antigen and by Western Blot analysis with the recombinant human PRL-3 (shown in this COA). The antibody titer is more than 2000 for ELISA, and 200 for Western Blot. It has not been tested in the other applications. However, for the first testing, we recommend 1/2000 dilution for ELISA, 1/200~1/500 dilution for Western blot analysis (WB) of recombinant protein, 1/100~1/400 dilution for tissue extracts or cell lysates, 1/10 dilution for immunohistochemistry (IHC) staining on frozen cryosections, 1/10 dilution for IHC staining on paraffin embedded sections.

Western Blot Procedure

1. Block with Blotto for 1 hour at RT.
2. Wash blot with 0.05% TBST 3 X 10 minutes.
3. Add 10X dilution of PRL-3 monoclonal antibody.
4. Incubate for 1 hour at RT.
5. Wash blot with 0.05% TBST 3 X 10 minutes.
6. Add appropriate amount of correct secondary antibody, goat anti-rabbit antibody conjugated with HRP). Incubate for 1 hour at RT.
7. Wash blot 3 X 10 minutes with 0.05% TBST at RT.
8. Add HRP substrate and develop

Storage

It is supplied as culture medium containing the rabbit monoclonal antibody. Dissolve the lyophilized product with 1.2 ml sterile water will restore its original concentration. Store at 4°C for short-term application. For long-term storage, aliquot and store at -20°C.

Related Products

1. Anti-TEM1 pAb (GB-30119)
2. Anti-TEM3 pAb (GB-30132)
3. Anti-TEM5 pAb (GB-30028)
4. Anti-TEM5 pAb (GB-30088)
5. Anti-TEM8 pAb (GB-10009)
6. Anti-PRL-3 pAb (GB-10343)
7. Anti-FLJ23603 rabbit mAb (GB-63024)
8. Anti-FLJ23603 pAb (GB-30024)
9. Anti-ZD52F10 pAb (GB-30025)
10. Anti-LOC54675 pAb (GB-30032)

References

1. Zeng Q, Hong W, Tan YH. Mouse PRL-2 and PRL-3, two potentially prenylated protein tyrosine phosphatases homologous to PRL-1. Biochem Biophys Res Commun. 1998 Mar 17;244(2):421-7.
2. Qi Zeng, Jing-Ming Dong, Ke Guo, Jie Li, Hui-Xian Tan, Vicki Koh, Catherine J. Pallen, Edward Manser, and Wanjin Hong. PRL-3 and PRL-1 Promote Cell Migration, Invasion, and Metastasis. Cancer Reseach .63, 2716–2722 (2003).

3. Xiaopeng Wu, Hu Zeng, Xianming Zhang, Ying Zhao, Haibo Sha, Xiaomei Ge, Minyue Zhang, Xiang Gao, and Qiang Xu. Phosphatase of Regenerating Liver-3 Promotes Motility and Metastasis of Mouse Melanoma Cells. American Journal of Pathology, Vol. 164, No. 6, June 2004.
4. Peng L, Ning J, Meng L, Shou C. The association of the expression level of protein tyrosine phosphatase PRL-3 protein with liver metastasis and prognosis of patients with colorectal cancer. J Cancer Res Clin Oncol. 2004 May 6. [Epub ahead of print]