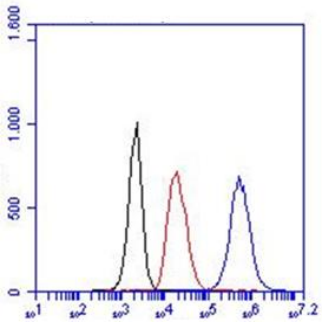
CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	Podoplanin, Human, clone LpMab13		
Catalog number	HM2374-20UG		
Lot number	-	**Expiry date**	-
Volume	200 µl	**Amount**	20 µg
Formulation	0.2 µm filtered in PBS+0.1%BSA+0.02%NaN3	**Concentration**	100 µg/ml
Host Species	Mouse IgG1	**Conjugate**	None
Endotoxin	N.A.	**Purification**	Protein G
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #		1	1	1		1		1
Yes		●	●	●		●		●
No								
N.D.	●				●		●	

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



FC: Flow cytometry experiment with MG-63 cells. Black line represent the cells only, red line the isotype control and blue line HM2374 in a concentration of 2 µg/250000 cells.

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- IA: Antibody LpMab13 can be used as detection antibody.
- FC: HM2374 can be used both intra- and extracellular.
- W: reduced and non-reduced conditions were used. The expected band sizes are ~40 kDa.

General Information

Description

Monoclonal antibody LpMab13 recognizes Podoplanin. Podoplanin (PDPN), also known under the name Aggrus, is highly expressed in various tumors (such as oral, lung, esophageal, brain) and in normal cells as lymphatic endothelial cells and podocytes. PDPN is a small type-I membrane glycoprotein with a large number of O-glycoside chains and therefore it belongs to mucin-type proteins. It can be found on the surface of many types of normal cells originating from various germ layers. It is present primarily on the endothelium of lymphatic vessels, type I pneumocytes and glomerular podocytes. Increased levels of podoplanin or its neo-expression have been found in numerous types of human carcinomas, but it is especially common in squamous cell carcinomas, such as cervical, larynx, oral cavity, skin and lung cancer. This small sialomucin is also seen on the surface of cancer-associated fibroblasts (CAFs) in lung adenocarcinomas, as well as in breast and pancreatic tumors. In most cancers, a high level of podoplanin expression, both in cancer cells, as well as in CAFs, is correlated with an increased incidence of metastasis to lymph nodes and shorter survival time of patients. Little is known about the biological role of podoplanin, however research carried out on mice with a knock-out gene of this glycoprotein shows that the presence of podoplanin determines normal development of lungs, the lymphatic system and heart. Podoplanin on cancer cells and CAFs seems to play an important role in the development and progression of various cancers. Podoplanin possesses in its N-terminal

extracellular region 3 tandem repeats of platelet aggregation-stimulating domains (PLAGs). The O-glycosylation on Thr52 of human PDPN (hPDPN) is critical for the interaction of hPDPN with C-type lectin-like receptor-2 (CLEC-2), resulting in platelet aggregation. LpMab-13 recognized endogenous hPDPN of cancer cells, including glioblastoma, oral cancer, lung cancer, and malignant mesothelioma, and normal cells such as lymphatic endothelial cells and podocytes of kidney in Western blot, flow cytometry, and immunohistochemistry. LpMab-13 specificially binds to PLAG2/3, and recognized glycan-deficient hPDPN in flow cytometry, indicating that the interaction between LpMab-13 and hPDPN is independent of its glycosylation. The minimum epitope of LpMab-13 was identified as Ala42–Asp49 of hPDPN using Western blot and flow cytometry. LpMab-13 might serve to study hPDPN function.

Immunogen LN229/hPDPN (Ref.1 and Ref.2)

Aliases Aggrus, Glycoprotein 36, Gp36, PA2.26 antigen, T1-alpha, T1A

Gene Gene name: PDPN Entrez Gene ID: 10630 Uniprot: Q86YL7

References

1. Ogasawara, S et al; Establishment of Mouse Monoclonal Antibody LpMab-13 Against Human Podoplanin. Mon ab in diagn and imm 2016, *3*:155
2. Kato, Y et al; LpMab-12 Established by CasMab Technology Specifically Detects Sialylated *O*-Glycan on Thr52 of Platelet Aggregation-Stimulating Domain of Human Podoplanin. PlosOne 2016, *11*: e0152912
3. Kaneko, M et al; Development and characterization of anti-glycopeptide monoclonal antibodies against human podoplanin, using glycan-deficient cell lines generated by CRISPR/Cas9 and TALEN. Cancer Medicine 2017, *6*:382

Storage&stability Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

Precautions For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

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Approved by Manager of QC	Date
Brenda Teunissen	28/12/2020

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.