Mouse ASGR1/ASGPR1 Antibody

Monoclonal Rat IgG_{2A} Clone # 352803

Catalog Number: MAB27552

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse ASGR1/ASGPR1 in direct ELISAs.
Source	Monoclonal Rat IgG_{2A} Clone # 352803
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse ASGR1/ASGPR1 Ser60-Asn284 Accession # NP_033844
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

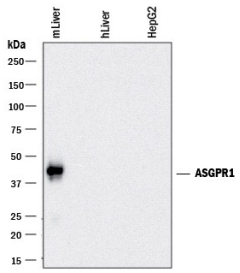
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below
Immunohistochemistry	5-25 µg/mL	See Below
ELISA	This antibody functions as an ELISA detection antibody when paired with Rat Anti-Mouse ASGR1/ASGPR1 Monoclonal Antibody (Catalog # MAB27551). *This product is intended for assay development on various assay platforms requiring antibody pairs.*	

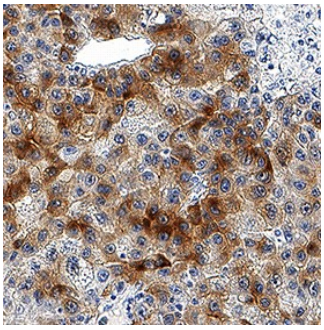
DATA

Western Blot



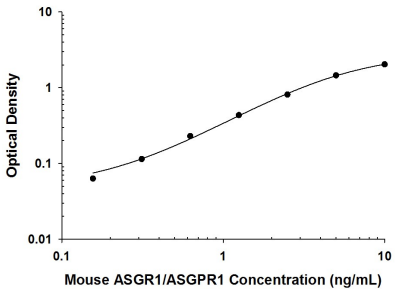
Detection of Mouse ASGR1/ASGPR1 by Western Blot. Western blot shows lysates of mouse liver tissue, human liver tissue (negative control), and HepG2 human hepatocellular carcinoma cell line (negative control). PVDF membrane was probed with 0.5 µg/mL of Rat Anti-Mouse ASGR1/ASGPR1 Monoclonal Antibody (Catalog # MAB27552) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for ASGR1/ASGPR1 at approximately 42 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



ASGR1/ASGPR1 in Human Liver. ASGR1/ASGPR1 was detected in immersion fixed paraffin-embedded sections of human liver using Rat Anti-Mouse ASGR1/ASGPR1 Monoclonal Antibody (Catalog # MAB27552) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Rat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS017) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in hepatocytes. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

ELISA



Mouse ASGR1/ASGPR1 ELISA Standard Curve. Recombinant Mouse ASGR1/ASGPR1 protein was serially diluted 2-fold and captured by Rat Anti-Mouse ASGR1/ASGPR1 Monoclonal Antibody (Catalog # MAB27551) coated on a Clear Polystyrene Microplate (Catalog # DY990). Rat Anti-Mouse ASGR1/ASGPR1 Monoclonal Antibody (Catalog # MAB27552) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

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Mouse ASGR1/ASGPR1 Antibody

Monoclonal Rat IgG_{2A} Clone # 352803

Catalog Number: MAB27552

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The mouse asialoglycoprotein receptor (ASGP-R) is an endocytic recycling receptor that belongs to the long-form subfamily of the C-type/Ca^{++}-dependent lectin family (1-3). It is a complex of two non-covalently linked subunits, a major 42 kDa glycoprotein (ASGPR1), and a minor 51 kDa glycoprotein (ASGR2). The major mouse ASGP-R subunit, ASGPR1, is synthesized as a 284 amino acid (aa) type II transmembrane (TM) protein that contains a 39 aa cytoplasmic region, a 21 aa TM segment, and a 224 aa extracellular domain (ECD) (4-6). The ECD contains two important structural regions. The first is a stalk region of 56 aa (aa's 59-117) that contributes to non-covalent oligomerization. The second is a 118 aa, carbohydrate-binding, Ca^{++}-dependent C-type lectin domain (aa's 160-277) that is unusually stabilized by three Ca^{++} ions (3, 5). There are two potential alternate splice forms for ASGPR1. Both are TM and show a deletion of the C-type lectin domain. One is 113 aa in length and shows a deletion of aa's 114-284 (7). The second is 132 aa in length and shows a deletion of aa's 118-146 and aa's 162-284 (8). Mouse ASGPR1 ECD is 89% and 79% aa identical to the ASGPR1 ECD in rat and human, respectively. The minor mouse ASGP-R subunit, ASGR2, is also a C-type lectin that shares the same structural organization as ASGR-1. It is 301 aa in length and has two 45 kDa and 51 kDa differentially-glycosylated isoforms (4, 6, 9). The ECD of ASGR2 is 50% aa identical to the ECD of ASGPR1. Although ASGPR1 and 2 can be expressed individually, a fully functional and stable ASGP-R requires simultaneous expression of both subunits (10-12). The stoichiometry of a functional ASGP-R is suggested to be either a 2:2, 3:1 or 3:2 ratio of ASGPR1:ASGR2 (13, 14). ASGPR1 is reported to bind Gal (nonreducing), GalNAc, and sialic acidα2,6GalNAc (3, 15, 16). This is generally in the context of triantennary or tetraantennary configurations (2).

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