Anti-Galectin 9 Antibody [PSH02-45] - BSA and Azide free

HA750810

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Rat
Applications:	WB
Molecular Wt:	Predicted band size: 40 kDa
Clone number:	PSH02-45

Description: The protein has N- and C- terminal carbohydrate-binding domains connected by a link peptide. Multiple alternatively spliced transcript variants have been found for this gene. Galectin-9 is one of the most studied ligands for HAVCR2 (TIM-3) and is expressed on various tumor cells. However, it can also interact with other proteins (CLEC7A, CD137, CD40). For example, an interaction with CD40 on T-cells inhibits their proliferation and induces cell death. Galectin-9 also has important cytoplasmic, intracellular functions and controls AMPK in response to lysosomal damage that can occur upon exposure to endogenous and exogenous membrane damaging agents such as crystalline silica, cholesterol crystals, microbial toxins, proteopathic aggregates such as tau fibrils and amyloids, and signaling pathways inducing lysosomal permeabilization such as those initiated by TRAIL. Mild lysosomal damage, such as that caused by the anti-diabetes drug metformin may contribute to the therapeutic action of metformin by activating AMPK. The mechanism of how Galectin-9 activates AMPK involves recognition of exposed lysosomal lumenal glycoproteins such as LAMP1, LAMP2, SCRAB2, TMEM192, etc., repulsion of deubiquitinating enzyme USP9X, increased K63 ubiquitination of TAK1 (MAP3K7) kinase, which in turn phopshorylates AMPK and activates it. This signaling cascade directly links Galectin-9 intracellular function with ubiqutin systems. Galectin-9, through its regulation of AMPK, a kinase that negatively regulates mTOR, cooperates with Galectin-8-based effects to inactivate mTOR downstream of the lysosomal damaging agents and conditions.

Immunogen:	Synthetic peptide within human Galectin 9 aa 51-100 / 355.
Positive control:	THP-1 cell lysate, A549 cell lysate, rat liver tissue lysate.
Subcellular location:	Cytoplasm, Nucleus, Secreted.
Database links:	SwissProt: O00182 Human | P97840 Rat
Recommended Dilutions:	
WB	1:2,000
Storage Buffer:	1*PBS (pH7.4).
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

Images

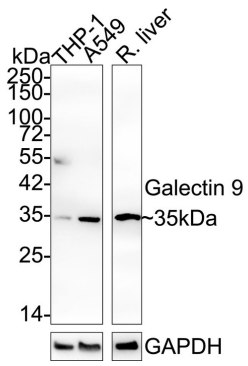

Fig1: Western blot analysis of Galectin 9 on different lysates with Rabbit anti-Galectin 9 antibody (HA750810) at 1/2,000 dilution.

Lane 1: THP-1 cell lysate
Lane 2: A549 cell lysate
Lane 3: Rat liver tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 40 kDa
Observed band size: 35 kDa

Exposure time: 2 minutes 18 seconds; ECL: K1802;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA750810) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Background References

1. Morishita A et al. Galectin-9 in Gastroenterological Cancer. Int J Mol Sci. 2023 Mar
2. Yang R et al. Galectin-9 interacts with PD-1 and TIM-3 to regulate T cell death and is a target for cancer immunotherapy. Nat Commun. 2021 Feb