Human HAPLN1 Alexa Fluor® 532-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 316119

Catalog Number: FAB2608X

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human HAPLN1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, this antibody does not cross-react with recombinant human HAPLN4.
Source	Monoclonal Mouse IgG_{2A} Clone # 316119
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human HAPLN1 Asp16-Asn354 Accession # P10915
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

HAPLN1 (also known as link protein and CRTL1) is a member of the hyaladherin family of hyaluronic acid (HA) binding proteins. Hyaluronan binding proteins are of two types; those with link modules, and those without. Link modules are 100 amino acid (aa) HA and protein-binding sequences that contain two α-helices and two antiparallel β-sheets (1, 3). There are three categories of link module-containing proteins. “A” domain-type proteins contain one link module; “B” domain-type proteins contain one link module with an N- and C-terminal flanking region; and “C” domain-type proteins have an extended structure with one N-terminal V-type Ig-like domain followed by two link modules (2). The HAPLN family is a group of four C domain-type proteins that share approximately 50% aa identity (4). HAPLN1 is synthesized as a 354 aa precursor that contains a 15 aa signal sequence and a 339 aa mature region (4 - 6). It contains one Ig-like domain and two 95 aa link modules (6). It is variably glycosylated with a native molecular weight between 41 - 48 kDa (7, 8). Mature human HAPLN1 is 97%, 96%, 96%, 96%, and 96% aa identical to equine, porcine, rat, mouse and bovine HAPLN1, respectively. HAPLN1 contributes to extracellular matrix stability and flexibility (9). In cartilage, HALPN1 forms a ternary complex with HA and aggrecan. This creates a gel-like substance with remarkable resistance to deformation (3). In this complex, HA forms a linear backbone with perpendicularly attached aggrecan and HAPLN1. Aggrecan and HAPLN1 lie parallel to each other, while HA runs between the two HAPLN1 link modules (2, 3, 10). The Ig domain of HAPLN1 binds to aggrecan, while the two link modules of HAPLN1 bind to HA. Although HA and aggrecan will associate, the tendency is towards dissociation (2, 3, 8). HAPLN1 provides a stabilizing influence on HA-aggrecan associations, thus creating a long-lived ternary functional complex.

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