

DESCRIPTION

Species Reactivity	Human
Specificity	Detects a synthetic peptide specific for human RBM20 around amino acid 720 in Direct ELISA.
Source	Monoclonal Mouse IgG _{2B} Clone # 1122808
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Synthetic Peptide Accession # Q5T481
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

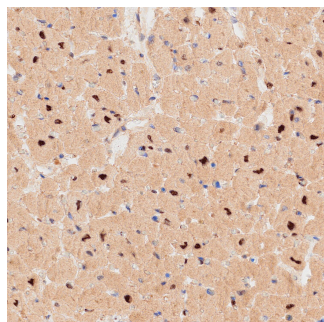
APPLICATIONS

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
Immunohistochemistry	0.25-25 µg/mL	Immersion fixed paraffin-embedded sections of h. heart

DATA

Immunohistochemistry



Immersion fixed paraffin-embedded sections of h. heart

RBM20 was detected in immersion fixed paraffin-embedded sections of h. heart using Mouse Anti-Human RBM20 Monoclonal Antibody (Catalog # MAB11824) at 5 µg/ml overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using the HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007) and counterstained with hematoxylin (blue). Specific staining was localized to the nucleus. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
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

RNA-binding motif protein 20 (RBM20) is a critical member of the RNA-binding protein family, with a molecular weight of approximately 125 kDa. RBM20 is predominantly expressed in cardiac tissue, where it plays a fundamental role in pre-mRNA splicing, regulation of alternative splicing, and the post-transcriptional processing of genes integral to cardiac function, such as titin (TTN). By regulating splicing and isoform expression, RBM20 is essential for the structural and functional organization of the sarcomere, the basic contractile unit of cardiac muscle. Mutations or dysregulation in RBM20 have been strongly associated with dilated cardiomyopathy (DCM), a severe cardiac disorder characterized by reduced left ventricular function and structural abnormalities. Furthermore, RBM20 mutations have been implicated in arrhythmogenic disorders and heart failure, underscoring its importance in maintaining cardiac homeostasis. Given its pivotal role in gene regulation and cardiac physiology, RBM20 represents a critical target for therapeutic development in heart diseases.

References:

1. Guo W, Schafer S, Greaser ML, Radke MH, Liss M, Govindarajan T, Maatz H, Schulz H, Li S, Parrish AM, Dauksaite V, Vakeel P, Klaassen S, Gerull B, Thierfelder L, Regitz-Zagrosek V, Hacker TA, Saupe KW, Dec GW, Ellinor PT, MacRae CA, Spallek B, Fischer R, Perrot A, Özcelik C, Saar K, Hubner N, Gotthardt M. RBM20, a gene for hereditary cardiomyopathy, regulates titin splicing. *Nat Med.* 2012 May;18(5):766-73. doi: 10.1038/nm.2693. PMID: 22466703; PMCID: PMC3569865.
2. Maatz H, Jens M, Liss M, Schafer S, Heinig M, Kirchner M, Adami E, Rintisch C, Dauksaite V, Radke MH, Selbach M, Barton PJ, Cook SA, Rajewsky N, Gotthardt M, Landthaler M, Hubner N. RNA-binding protein RBM20 represses splicing to orchestrate cardiac pre-mRNA processing. *J Clin Invest.* 2014 Aug;124(8):3419-30. doi: 10.1172/JCI74523. Epub 2014 Jun 24. PMID: 24960161; PMCID: PMC4109538.
3. Ma J, Lu L, Guo W, Ren J, Yang J. Emerging Role for RBM20 and its Splicing Substrates in Cardiac Function and Heart Failure. *Curr Pharm Des.* 2016;22(31):4744-4751. doi: 10.2174/1381612822666160701145322. PMID: 27396593.