Datasheet for 200-901-B20S

L1/ORF2 Antibody

Overview

Description:	Anti-L1/ORF2 (CHICKEN) Antibody - 200-901-B20S
Item No.:	200-901-B20S
Size:	25 µL
Applications:	Dot Blot, ELISA, WB, IF
Reactivity:	Human, Chimpanzee
Host Species:	Chicken

Product Details

Background:	This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI) and is suitable for Cancer, Immunology and Nuclear Signaling research. The L1 (LINE-1), or Long INterspersed Element , retrotransposon ORF2 is the most common open reading frame in the human genome, present in various forms in many thousands of copies. This large family of proteins includes magnesium dependent endonucleases and a large number of phosphatases involved in intracellular signaling. Both intact ORF1 and ORF2 are absolutely required for autonomous retro-transposition. ORF2 encodes an endonuclease, reverse transcriptase, and zinc knuckle domains. The expression of ORF2 appears to be tightly regulated except in germ line tissues, embryonic tissues, and certain cancers including teratomas, testicular cancers, and leukemias. This antibody is intended for use in studying control of L1 retrotransposons.
Synonyms:	chicken anti-L1/ORF2 Antibody, chicken anti-L1-ORF2 Antibody, L1 (LINE-1), Long INterspersed Element , retrotransposon ORF2
Host Species:	Chicken
Clonality:	Polyclonal
Format:	IgY

Target Details

Gene Name:	ORF2
Reactivity:	Human, Chimpanzee

Immunogen Type:	Conjugated Peptide
Immunogen:	This IgY fraction antibody was prepared from eggs of chickens laid after repeated immunizations with two synthetic peptides conjugated to keyhole limpet hemocyanin (KLH). The peptides correspond to regions within the endonuclease domain of L1/ORF2 protein.
Purity/Specificity:	This IgY fraction antibody is directed against two regions within the endonuclease domain of L1 ORF2 protein. This product is an IgY fraction antibody purified from monospecific chicken egg yolks by a multi-step process which includes selective precipitation and salt fractionation followed by extensive dialysis against the buffer stated above. Reactivity occurs against human L1/ORF2 protein and is useful in determining its presence in various assays. A BLAST analysis was used to suggest cross reactivity with L1/ORF2 proteins from chimpanzee sources based on 100% homology with the immunizing sequences, and from macaque, fruit fly, cattle, dog, opossum, and rat sources based on 69 - 88% homology with the immunizing sequences.
Relevant Links:	• UniProtKB - O00370 • NCBI - AAD39215.1

Application Details

Tested Applications:	Dot Blot, ELISA, WB
Suggested Applications:	IF (Based on references)
Application Note:	This IgY fraction antibody has been tested for use in ELISA and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 149 kDa in size corresponding to L1 protein by western blotting in the appropriate cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000
WB:	1:2,000 - 1:10,000

Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiration:	Expiration date is three (3) months from date of receipt.

Images

Western Blot
Western blot using Rockland's IgY fraction of anti-L1/ORF2 antibody shows detection of induced bacterially expressed human ORF2 (left lane). No specific band staining is seen in the uninduced lane (right lane). The lower molecular weight bands represent non-specific staining. The band at ~70 kDa corresponds to a human L1/ORF2 EN domain fusion protein (arrowhead). Personal communication, D. Symer, NCI, Bethesda, MD.

References

- Pavlová S et al. Hypomethylating agents increase L1 retroelement expression without inducing novel insertions in myeloid malignancies. *Mol Oncol.* (2025)

Disclaimer

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