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Anti-L1/ORF2 (CHICKEN) Antibody
L1/ORF2 Antibody
Catalog # ASR4848

Specification

Anti-L1/ORF2 (CHICKEN) Antibody - Product Information

Host	**Chicken**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Chimpanzee, Human**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**Anti-L1/ORF2 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.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
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.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-L1/ORF2 (CHICKEN) Antibody - Additional Information

Purity
L1/ORF2 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.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-L1/ORF2 (CHICKEN) Antibody - Protein Information

Name LORF2

Function
Has reverse transcriptase activity required for target-primed reverse transcription of the LINE-1 element mRNA, a crucial step in LINE-1 retrotransposition (PubMed:38096901, PubMed:38096902, PubMed:7516468, PubMed:9140393). Selectively binds and reversely transcribes RNA with a poly(A) tail consisting of at least 20 adenosines (PubMed:38096901). Also has endonuclease activity that allows the introduction of nicks in the chromosomal target DNA (PubMed:17626046, PubMed:34554261, PubMed:38096901, PubMed:38096902, PubMed:8945517). Cleaves DNA in AT-rich regions between a 5' stretch of purines and a 3' stretch of pyrimidines, corresponding to the sites of LINE-1 integration in the genome (PubMed:8945517). Conformational properties of the target DNA sequence rather than specific nucleotides are key determinants of the ORF2p capacity for sequence-specific DNA recognition (PubMed:17626046, PubMed:34554261). Unlike related endonucleases, does not bend the DNA helix but causes compression near the cleavage site (PubMed:34554261).

Anti-L1/ORF2 (CHICKEN) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-L1/ORF2 (CHICKEN) Antibody - Images

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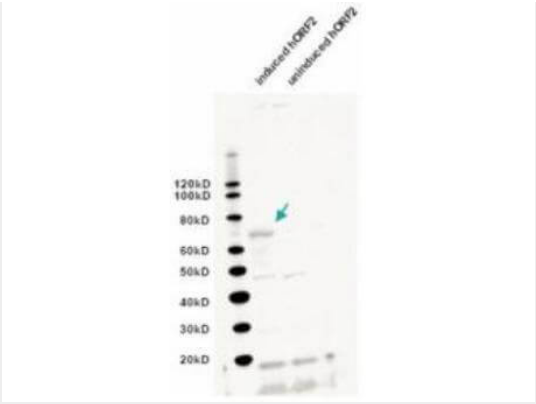

Western blot using Rockland's IgY fraction of anti-L1/ORF2 antibody shows detection of induced bacterially expressed human ORF2 (left lane). No specific band staining is seen in the uninduced lane (right lane). The lower molecular weight bands represent non-specific staining. The band at ~70 kDa corresponds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

Anti-L1/ORF2 (CHICKEN) Antibody - 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.