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AP09187PU-S Polyclonal Antibody to L1 / ORF2 - Ig Fraction

Alternate names: LINE-1

Quantity: 25 µl

Concentration: 1.0 mg/ml (by UV absorbance at 280 nm)

Background: 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 retrotransposition. 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.

Host / Isotype: Chicken / IgG

Immunogen: Two Synthetic peptides conjugated to keyhole limpet hemocyanin (KLH). The peptides correspond to regions within the endonuclease domain of L1/ORF2 protein
Remarks: 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.

Format: **State:** Liquid IgY fraction
Purification: 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.
Buffer System: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservatives: 0.01% (w/v) Sodium Azide

Applications: **ELISA:** 1/10000.
Western Blot: 1/2000-1/10000.
Expect a band approximately 149 kDa in size corresponding to L1 protein by western blotting in the appropriate cell lysate or extract.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody recognizes L1 / ORF2.
Reactivity occurs against Human L1/ORF2 protein and is useful in determining its presence in various assays.

Species Reactivity: **Tested:** Human.
Expected from sequence similarity: Chimpanzee.

Storage:

Store the antibody at -20°C.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch

General Readings:

1. Ergün S, Buschmann C, Heukeshoven J, Dammann K, Schnieders F, Lauke H, et al. Cell type-specific expression of LINE-1 open reading frames 1 and 2 in fetal and adult human tissues. J Biol Chem. 2004 Jun 25;279(26):27753-63. Epub 2004 Mar 31. PubMed PMID: 15056671.
2. Symer DE, Connelly C, Szak ST, Caputo EM, Cost GJ, Parmigiani G, et al. Human l1 retrotransposition is associated with genetic instability in vivo. Cell. 2002 Aug 9;110(3):327-38. PubMed PMID: 12176320.
3. Bushman FD. Targeting survival: integration site selection by retroviruses and LTR-retrotransposons. Cell. 2003 Oct 17;115(2):135-8. PubMed PMID: 14567911.

Pictures:

Western blot using 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).