# LRCH1 (E-14): sc-84195



The Power to Question

## **BACKGROUND**

Members of the leucine-rich repeat family include LRCH1, LRCH2, LRCH3 and LRCH4. All family members contain one calponin-homology domain and nine leucine-rich repeats. The gene encoding LRCH1, also known as Neuronal protein 81 (NP81), has been suggested to be a possible gene locus for susceptibility to osetoarthritis, especially in women, though studies have shown conflicting results. LRCH1 is a 728 amino acid protein that is expressed at highest levels in cerebellum, with lower levels of expression in spinal cord, ovary, kidney and amygdala. In pigs, the gene encoding LRCH1 is one of 22 genes that is associated with leg and body conformation traits that affect productivity and health. There are two isoforms of LRCH1 that are expressed as a result of alternative splicing events.

## **REFERENCES**

- Hamano, S., Ohira, M., Isogai, E., Nakada, K. and Nakagawara, A. 2004. Identification of novel human neuronal leucine-rich repeat (hNLRR) family genes and inverse association of expression of Nbla10449/hNLRR-1 and Nbla10677/hNLRR-3 with the prognosis of primary neuroblastomas. Int. J. Oncol. 24: 1457-1466.
- Haines, B.P., Gupta, R., Jones, C.M., Summerbell, D. and Rigby, P.W. 2005. The NLRR gene family and mouse development: Modified differential display PCR identifies NLRR-1 as a gene expressed in early somitic myoblasts. Dev. Biol. 281: 145-159.
- Bando, T., Sekine, K., Kobayashi, S., Watabe, A.M., Rump, A., Tanaka, M., Suda, Y., Kato, S., Morikawa, Y., Manabe, T. and Miyajima, A. 2005. Neuronal leucine-rich repeat protein 4 functions in hippocampus-dependent long-lasting memory. Mol. Cell. Biol. 25: 4166-4175.
- Spector, T.D., Reneland, R.H., Mah, S., Valdes, A.M., Hart, D.J., Kammerer, S., Langdown, M., Hoyal, C.R., Atienza, J., Doherty, M., Rahman, P., Nelson, M.R. and Braun, A. 2006. Association between a variation in LRCH1 and knee osteoarthritis: a genome-wide single-nucleotide polymorphism association study using DNA pooling. Arthritis Rheum. 54: 524-532.
- García-Calero, E., Garda, A.L., Marín, F. and Puelles, L. 2006. Expression of Lrrn1 marks the prospective site of the zona limitans thalami in the early embryonic chicken diencephalon. Gene Expr. Patterns. 6: 879-885.
- Ikegawa, S. 2007. New gene associations in osteoarthritis: what do they provide, and where are we going? Curr. Opin. Rheumatol. 19: 429-434.
- 7. Snelling, S., Sinsheimer, J.S., Carr, A. and Loughlin, J. 2007. Genetic association analysis of LRCH1 as an osteoarthritis susceptibility locus. Rheumatology 46: 250-252.
- 8. Onteru, S.K., Fan, B., Mote, B., Serenius, T., Nikkilae, M., Stalder, K.J. and Rothschild, M.F. 2008. SNP discovery in genes affecting leg health traits in pigs. Dev. Biol. 132: 337-342.
- Jiang, Q., Shi, D., Nakajima, M., Dai, J., Wei, J., Malizos, K.N., Qin, J., Miyamoto, Y., Kamatani, N., Liu, B., Tsezou, A., Nakamura, T. and Ikegawa, S. 2008. Lack of association of single nucleotide polymorphism in LRCH1 with knee osteoarthritis susceptibility. J. Hum. Genet. 53: 42-47.

#### **CHROMOSOMAL LOCATION**

Genetic locus: LRCH1 (human) mapping to 13q14.13; Lrch1 (mouse) mapping to 14 D3.

## **SOURCE**

LRCH1 (E-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of LRCH1 of human origin.

#### **PRODUCT**

Each vial contains 100  $\mu g$  lgG in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84195 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## **APPLICATIONS**

LRCH1 (E-14) is recommended for detection of LRCH1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with LRCH1-b, LRCH1-a.

LRCH1 (E-14) is also recommended for detection of LRCH1 in additional species, including equine and bovine.

Suitable for use as control antibody for LRCH1 siRNA (h): sc-106182, LRCH1 siRNA (m): sc-149030, LRCH1 shRNA Plasmid (h): sc-106182-SH, LRCH1 shRNA Plasmid (m): sc-149030-SH, LRCH1 shRNA (h) Lentiviral Particles: sc-106182-V and LRCH1 shRNA (m) Lentiviral Particles: sc-149030-V.

Molecular Weight of LRCH1: 81/77 kDa.

#### **RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluo-rescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### **STORAGE**

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

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