

# G72 (N-15): sc-46118



The Power to Question

## BACKGROUND

D-amino acid oxidase (DAAO) metabolizes exogenous D-amino acids that accumulate during aging and modulates the level of D-serine in the brain, acting as a detoxifying agent. DAAO is specific for the D-configuration of amino acids and exhibits a preference for those with small, hydrophobic side chains and polar, aromatic and basic functional groups. D-amino acid oxidase activator (G72) associates with and activates DAAO. This 157 amino acid protein localizes to the Golgi apparatus. The gene encoding for the protein, known as DAOA, maps to chromosome 13q33.2-13q34. G72 is expressed in amygdala, spinal cord and testis. The G72 protein, together with the associated protein DAAO, is often implicated in schizophrenia. An overexpression of the G72 protein can be detected in schizophrenic brain samples.

## REFERENCES

1. Chumakov, I., et al. 2002. Genetic and physiological data implicating the new human gene G72 and the gene for D-amino acid oxidase in schizophrenia. *Proc. Natl. Acad. Sci. USA* 99: 13675-13680.
2. Shirts, B.H., et al. 2004. The genes for schizophrenia: finally a breakthrough? *Curr. Psychiatry Rep.* 6: 303-312.
3. Addington, A.M., et al. 2004. Polymorphisms in the 13q33.2 gene G72/G30 are associated with childhood-onset schizophrenia and psychosis not otherwise specified. *Biol. Psychiatry* 55: 976-980.
4. Korostishevsky, M., et al. 2004. Is the G72/G30 locus associated with schizophrenia? Single nucleotide polymorphisms, haplotypes, and gene expression analysis. *Biol. Psychiatry* 56: 169-176.
5. Hall, D., et al. 2004. The contribution of three strong candidate schizophrenia susceptibility genes in demographically distinct populations. *Genes Brain Behav.* 3: 240-248.
6. Wang, X., et al. 2004. Association of G72/G30 with schizophrenia in the Chinese population. *Biochem. Biophys. Res. Commun.* 319: 1281-1286.
7. Lal, S., et al. 2004. Cholecystokinin pathways modulate sensations induced by gastric distension in humans. *Am. J. Physiol. Gastrointest. Liver Physiol* 287: G72-G79.
8. Nehme, D., et al. 2004. Assembly of the MexAB-OprM multidrug efflux system of *Pseudomonas aeruginosa*: identification and characterization of mutations in mexA compromising MexA multimerization and interaction with MexB. *J. Bacteriol.* 186: 2973-2983.
9. Picollo, A., et al. 2004. Molecular determinants of differential pore blocking of kidney CLC-K chloride channels. *EMBO Rep.* 5: 584-589.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: DAOA (human) mapping to 13q34.

## SOURCE

G72 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of G72 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46118 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

G72 (N-15) is recommended for detection of G72 of 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).

Suitable for use as control antibody for G72 siRNA (h): sc-45663, G72 shRNA Plasmid (h): sc-45663-SH and G72 shRNA (h) Lentiviral Particles: sc-45663-V.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Sacchi, S., et al. 2008. pLG72 modulates intracellular D-serine levels through its interaction with D-amino acid oxidase: effect on schizophrenia susceptibility. *J. Biol. Chem.* 283: 22244-22256.

## RESEARCH USE

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