Human Norrin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3014

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Norrin in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse Norrin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Norrin Lys25-Ser133 Accession # Q00604
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human Norrin (Catalog # 3014-NR)
Immunohistochemistry	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human brain (cerebellum and cortex) subjected to Antigen Retrieval Reagent-Basic (Catalog # CTS013)
Blockade of Receptor-ligand Interaction	In a functional ELISA, 2-6 µg/mL of this antibody will block 50% of the binding of 0.25 µg/mL of Recombinant Mouse Frizzled-4 Fc Chimera to immobilized Recombinant Human Norrin coated at 0.5 µg/mL (100 µL/well). At 50 µg/mL, this antibody will block >80% of the binding.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Norrin (also called Norrie Disease Protein or NDP) is a secreted regulatory protein that remains tightly associated with the extracellular matrix (1). At least 70 mutations of Norrin have been identified in Norrie disease (X-linked retinal dysplasia) or in a minority of X-linked familial exudative vitreoretinopathy (FEVR). Both are disorders of retinal vascularization that cause blindness (2, 3). Norrin consists of disulfide-linked homodimers that oligomerize further via disulfide bridges to form higher order oligomers containing up to ten units of 12 kDa each. The cysteine-rich C-terminal domain of Norrin is homologous to von Willebrand factor, several extracellular mucin proteins, and members of the TGF-β family. Molecular modeling studies predict that Norrin assumes a cysteine-knot structure typical for the TGF-β family (4). Although Norrin is not related to Wnt family proteins, it functions like a Wnt protein in that it binds with high affinity to the receptor Frizzled-4, requires LDL receptor-related protein (LRP) as a co-receptor, and induces activation of the canonical Wnt signaling pathway (5). Norrin and Frizzled-4 are expressed at relatively low levels in tissues displaying vascular phenotypes and genetic disruption of either gene in mice gives phenotypes with marked similarities (5, 6, 7). Human Norrin shares 100%, 96%, 95%, 94% and 90% amino acid identity with rhesus macaque, canine, bovine, mouse, and chick Norrin, respectively.

References:

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5. Xu, Q. *et al.* (2004) Cell **116**:883.
6. Hartzer, M.K. *et al.* (1999) Brain Res. Bull. **49**:355.
7. Wang, Y. *et al.* (2001) J. Neurosci. **21**:4761.

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