10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Gli2 Rabbit pAb

Catalog # AP98355

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P10070
Other Accession	P10070
Reactivity	Rat, Human, Mouse
Predicted	Pig, Rabbit, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	167783
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Gli2
Epitope Specificity	501-600/1586
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the GLI C2H2-type zinc-finger protein family. Contains 5 C2H2-type zinc fingers.
SUBUNIT	Interaction with ZIC
Post-translational modifications	Phosphorylated in vitro by ULK3.
DISEASE	Defects in GLI2 are the cause of holoprosencephaly type 9 (HPE9) [MIM:610829]; also called pituitary anomalies with holoprosencephaly-like features. The primary features of this disease include defective anterior pituitary formation and pan-hypopituitarism, with or without overt forebrain cleavage abnormalities, and holoprosencephaly-like midfacial hypoplasia. Holoprosencephaly is the most common structural anomaly of the brain, in which the developing forebrain fails to correctly separate into right and left hemispheres. Holoprosencephaly is genetically heterogeneous and associated with several distinct facies and phenotypic variability.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	It has long been known that the overexpression of either Wnt-1 or the GLI proteins results in cancer; however, the molecular basis for this transformation was poorly understood. The Wnt-1 and GLI proteins have now been placed in a signaling cascade downstream of the mammalian homologs of the Drosophila hedgehog and patched proteins. The Drosophila segment polarity gene hedgehog (hh) encodes a secreted protein that appears to function in embryonic and imaginal disc patterning. The ptc gene, also identified as a Drosophila segment polarity gene, encodes the transmembrane protein patched, the expression of which is precisely regulated during embryonic development. Hedgehog has been shown to enhance the expression of the Wnt family of proteins through a signaling cascade involving the GLI transcription factors, while patched functions as a repressor opposing the effects of hedgehog. Mutations in the ptc gene, which result in unregulated hedgehog signaling, have been correlated with the most

common type of cancer, basal cell carcinoma, which affects 750,000 individuals annually in the United States alone.

Additional Information

Gene ID	2736
Other Names	CJS; HPE9; PHS2; THP1; THP2; GLI2_HUMAN; GLI2; GLI family zinc finger protein 2; Tax helper protein; THP; GLI2_MOUSE; Q8K0K3_MOUSE; GLI family zinc finger 2; GLI-Kruppel family member GLI2; glioma-associated oncogene family zinc finger 2; tax-responsive element-2 holding protein; tax helper protein 1; tax helper protein 2
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	GLI2 {ECO:0000303|PubMed:9557682, ECO:0000312|HGNC:HGNC:4318}
Function	Transcription factor that acts as a key effector of the smoothened signaling pathway, and which plays a role in skeleton development (PubMed:15994174, PubMed:18455992, PubMed:19878745, PubMed:20154143, PubMed:20685856, PubMed:24311597, PubMed:26565916, PubMed:9557682). Specifically binds to the minimal GLI-consensus sequence 5'-GACCACCCA-3' to activate or repress the expression of target genes (By similarity). Functions both as a transcriptional activator and repressor: the full-length GLI2 form (Transcription activator GLI2) acts as a transcription activator following smoothened activation, while the Transcription repressor GLI2R, which is generated in absence of smoothened, acts as a transcription repressor (By similarity). The transcriptional activator form constitutes the major form of GLI2 (By similarity).
Cellular Location	Nucleus. Cytoplasm {ECO:0000250|UniProtKB:Q0VGT2} Cell projection, cilium. Note=Full-length GLI2 is sequestered in the cytoplasm by SUFU in absence of smoothened signaling. {ECO:0000250|UniProtKB:Q0VGT2} [Transcription repressor GLI2R]: Nucleus {ECO:0000250|UniProtKB:Q0VGT2}. Note=Following generation by proteolytic processing in absence of smoothened, translocates to the nucleus, where is represses transcription of target genes {ECO:0000250|UniProtKB:Q0VGT2} [Isoform 2]: Nucleus
Tissue Location	Expressed in breast cancers (at protein level) (PubMed:26565916). Isoform 1 and isoform 4 are expressed in HTLV-1- infected T-cell lines (at protein level) (PubMed:9557682). Isoform 1 and isoform 2 are strongly expressed in HTLV-1-infected T-cell lines (PubMed:9557682). Isoform 3 and isoform 4 are weakly expressed in HTLV- 1-infected T-cell lines (PubMed:9557682).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.