Revision 1

Store at -20C

#26118

Hedgehog Signaling Antibody Sampler Kit

1 Kit (8 x 20 microliters)

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Shh (C9C5) Rabbit mAb	2207	20 µl	19, (45 precursor) kDa	Rabbit IgG
Smoothened (E6Z5T) Rabbit mAb	92981	20 µl	85 kDa	Rabbit IgG
PTCH1 (C53A3) Rabbit mAb	2468	20 µl	180-210 kDa	Rabbit IgG lambda
PTCH2 (G1191) Antibody	2470	20 µl	130 kDa	Rabbit
SUFU (C54G2) Rabbit mAb	2520	20 µl	54 kDa	Rabbit IgG
GLI1 (C68H3) Rabbit mAb	3538	20 µl	160 kDa	Rabbit IgG
GLI2 (E5V8N) Rabbit mAb	18773	20 µl	220 kDa	Rabbit IgG
GLI3 (E6E2K) Rabbit mAb	71107	20 µl	200 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Hedgehog Signaling Antibody Sampler Kit provides an economical means of evaluating key members of the Hedgehog signaling pathway. The kit includes enough antibodies to perform two western blot experiments with each primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA, 50% glycerol, and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibodies.*

Background

The Hedgehog (Hh) signaling pathway plays critical roles in the regulation of cell fate, tissue patterning, and growth during embryonic development. It is downregulated during postnatal development, but can be reactivated to promote tissue repair and regeneration. Aberrant Hh signaling activity during prenatal development is associated with numerous birth defects (e.g., holoprosencephaly), while uncontrolled Hh pathway activation postnatally is linked to the development of several cancer types (1,2). There are three canonical Hh ligands: Sonic hedgehog (SHH), Indian hedgehog (IHH), and Desert hedgehog (DHH), all of which have distinct as well as overlapping roles and expression patterns (3-5). Patched1 and 2 (PTCH1 and PTCH2) are partially redundant 12-pass transmembrane proteins that function as receptors for Hh ligands (6-8). Smoothened (SMO) is a 7-pass transmembrane G protein-coupled receptor (GPCR) that functions as the key transducer of Hh signaling. In the absence of Hh ligands (off-state), PTCH proteins are localized to cilia, and function to suppress SMO activity (1,2). Suppressor of Fused (SUFU) simultaneously contributes to suppression of the pathway by sequestering the glioma-associated oncogene (GLI) family of transcription factors (9,10). Binding of Hh ligands to PTCH receptors results in derepression of SMO, in part by promoting its translocation to cilia; this leads to downregulation of SUFU, resulting in the stabilization and nuclear translocation of GLI transcription factors that regulate the transcription of genes involved in cell proliferation, migration, and survival (1).

Background References

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