

DESCRIPTION

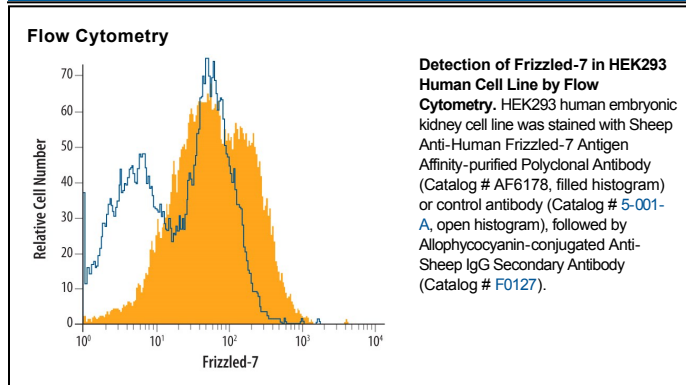
Species Reactivity	Human
Specificity	Detects human Frizzled-7 in direct ELISAs. In direct ELISAs, approximately 40% cross-reactivity with recombinant mouse Frizzled-7 and recombinant human Frizzled-1 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Frizzled-7 Gln33-Leu185 Accession # NP_003498
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 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
Flow Cytometry	2.5 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
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. <ul style="list-style-type: none"> ● 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

Frizzled-7 is a member of the Frizzled family of unconventional G-protein-coupled glycoprotein receptors for the Wnt signaling pathway (1-3). The Wnt genes encode a large family of glycoproteins that are essential in development and tissue maintenance (1, 2). Like other Frizzled family members, Frizzled-7 contains a divergent N-terminal signal peptide (amino acid (aa) 1-32), a highly conserved extracellular cysteine-rich domain (CRD, aa 44-169), a variable-length linker region (aa 170-256), a seven-pass transmembrane region (aa 257-549), and a variable-length C-terminal cytoplasmic domain (aa 550-574) (1-3). The CRD, which comprises the binding site for Wnts and other ligands such as Syndecan 4 and fibronectin, spans about 130 amino acid residues and contains ten invariant cysteine residues (2, 3). Expressed alone, it can compete with native Frizzled to inhibit Wnt canonical signaling (4). Within aa 33-185, human Frizzled-7 shares ~99% aa identity with human, rat, canine and bovine Frizzled-7. Mature Frizzled-7 also shares 80% aa identity with Frizzled-1 and Frizzled-2. Roles for Frizzled-7 have been determined in both canonical Wnt/ β -Catenin-mediated signaling and non-canonical planar cell polarity and calcium pathways (1, 2, 4). During development, Frizzled-7 is expressed during gastrulation and in the fetal gut, kidney and lung where it is thought to influence tissue morphogenesis via non-canonical signaling pathways (3-5). In the adult, Frizzled-7 is expressed in skeletal muscle, especially in satellite cells that mediate muscle regeneration in response to Wnt-7a (3, 6). It is expressed in embryonic stem cells (ES), contributing to self-renewal signaling (7). It has been implicated in mesenchymal-to-epithelial transition in colorectal cancer (2, 8). Frizzled-7 mRNA has also been detected in adult heart and placenta (3).

References:

1. Schulte, G. and V. Bryja (2007) *Trends Pharmacol. Sci.* **28**:518.
2. Vincan, E. *et al.* (2007) *Front. Biosci.* **12**:4558.
3. Sagara, N. *et al.* (1998) *Biochem. Biophys. Res. Commun.* **252**:117.
4. Medina, A. *et al.* (2000) *Mech. Dev.* **92**:227.
5. Kemp, C.R. *et al.* (2007) *Dev. Dyn.* **236**:2011.
6. Le Grand, F. *et al.* (2009) *Cell Stem Cell* **4**:535.
7. Melchior, K. *et al.* (2008) *Biol. Chem.* **389**:897.
8. Vincan, E. *et al.* (2007) *Oncogene* **26**:2340.