

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human HCN4 in direct ELISAs.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human HCN4 Lys1084-Leu1203 Accession # Q9Y3Q4
<b>Formulation</b>	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.

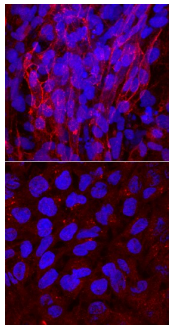
#### APPLICATIONS

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Immunocytochemistry</b>	5-15 µg/mL	See Below

#### DATA

##### Immunocytochemistry



**HCN4 in BG01V Human Embryonic Stem Cells.** HCN4 was detected in immersion fixed BG01V human embryonic stem cells, undifferentiated (lower panel) and differentiated into cardiomyocytes (upper panel), using Sheep Anti-Human HCN4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF8138) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces. View our protocol for [Fluorescent ICC Staining of Stem Cells on Coverslips](#).

#### PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### BACKGROUND

HCN4 (hyperpolarization-activated cyclic nucleotide-gated channel 4) is a 120-160 kDa, 1203 amino acid (aa) multipass plasma membrane protein that is a member of the HCN family of potassium channel proteins. It is mainly expressed in cardiac myocytes, thalamus and testis. HCN4 is important for pacemaker function in the heart, and rhythmic activity in the thalamus. Specific mutations can cause Sick Sinus Syndrome 2 (SSS2), a cardiac sinus node malfunction, or Brugada syndrome 8 (BRGDA8), a tachyarrhythmia syndrome. Within aa 1084-1203, human HCN4 shares 92% and 93% aa sequence identity with mouse and rat HCN4, respectively.