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Inhibitors, Screening Libraries, Proteins

# HCN Channel

## Hyperpolarization activated cyclic nucleotide gated channels

Hyperpolarization- and Cyclic Nucleotide-gated (HCN) channels are a family of six transmembrane domain, single pore-loop, hyperpolarization activated, non-selective cation channels. The HCN family consists of four members (HCN1-4). HCN channels represent the molecular correlates of  $I(h)$ , a hyperpolarization-activated current best known for its role in controlling heart rate and in the regulation of neuronal resting membrane potential and excitability.

HCN channels are unique among vertebrate voltage-gated ion channels, in that they have a reverse voltage-dependence that leads to activation upon hyperpolarization. HCN channels are encoded by four genes (HCN1-4) and are widely expressed throughout the heart and the central nervous system.

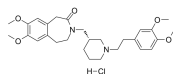
## HCN Channel Inhibitors & Antagonists

### Cilobradine hydrochloride

(DK-AH 269)

Cat. No.: HY-18940A

Cilobradine is an HCN Channel blocker; an open channel blocker of neuronal  $I_h$  and related cardiac  $I_f$  channels. Target: HCN Channel blocker  
Cilobradine is a HCN channel blocker that is about 3 times more potent than ZD7288.



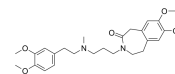
**Purity:** 98.33%  
**Clinical Data:** Phase 1  
**Size:** 1 mg

### Zatebradine

(UL-FS-49 free base; UL-FS-49CL free base)

Cat. No.: HY-13422A

Zatebradine (UL-FS-49 (free base); UL-FS-49CL (free base)) is a potent inhibitor of **hyperpolarization-activated cyclic nucleotide-gated (HCN) channels** with an  $IC_{50}$  value of 1.96  $\mu$ M.



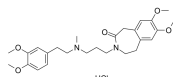
**Purity:** 99.0%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM  $\times$  1 mL, 5 mg, 10 mg, 50 mg

### Zatebradine hydrochloride

(UL-FS-49; UL-FS-49CL)

Cat. No.: HY-13422

Zatebradine (UL-FS-49 (free base)) is a potent inhibitor of **hyperpolarization-activated cyclic nucleotide-gated (HCN) channels** with an  $IC_{50}$  values 1.96  $\mu$ M.



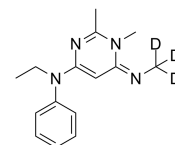
**Purity:** 99.30%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM  $\times$  1 mL, 5 mg, 10 mg, 50 mg

### ZD 7288-d3

(ICI D7288-d3)

Cat. No.: HY-101346S

ZD 7288-d3 (ICI D7288-d3) is the deuterium labeled ZD7288. ZD7288 (ICI D7288) is a selective hyperpolarization-activated cyclic nucleotide-gated (HCN) channel blocker.



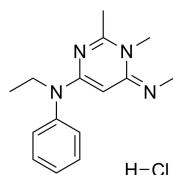
**Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg

### ZD7288

(ICI D7288)

Cat. No.: HY-101346

ZD7288 (ICI D7288) is a selective hyperpolarization-activated cyclic nucleotide-gated (HCN) channel blocker.



**Purity:** 99.86%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM  $\times$  1 mL, 5 mg, 10 mg, 50 mg, 100 mg