AddexBio
Research Services

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Specification Sheet: CALCIUM-SENSING RECEPTOR STABLE CELL LINE

Catalog #: S0014002

Product Name	Calcium-Sensing Receptor Stable Cell Line
CHANNEL/RECEPTOR	Calcium-sensing receptor from dorsal root ganglion
Catalog #	S0014002
Expression System	HEK293 cells, Embryonic Kidney Epithelial Cells
Growth Condition	Details enclosed in shipping Information Sheet
Subculture	1:2 to 1:3 using 0.25% trypsin or trypsin/EDTA, 5% CO2; 37°C
Freezing	Complete culture medium supplemented with 5% (v/v) DMSO
Morphology and Properties	Adherent epithelium
Gene Name	CaSR, CaR
Sequence	GenBank accession number AY214122
Mycoplasma Status	Negative (MycoAlert Kit)
Packaging	Cryopreserved cells, 1 x 10^6 cells/vial
Storage Recommendation	Vapor phase of liquid nitrogen
Background	The **calcium-sensing receptor** (CaSR) is a G-protein coupled receptor which senses extracellular levels of calcium ion. In the parathyroid gland, the calcium-sensing receptor controls calcium homeostasis by regulating the release of parathyroid hormone (PTH). In colorectal cancer, CaSR has been downregulated while it has been upregulated in breast cancer.
References	D'Souza-Li L. The calcium-sensing receptor and related diseases. *Arquivos brasileiros de endocrinologia e metabologia* 2006: 50 (4): 628–39. Rogers AC, Hanly AM, Collins D, Baird AW, Winter DC. Loss of the Calcium-Sensing Receptor in Colonic Epithelium is a Key Event in the Pathogenesis of Colon Cancer. Clin Colorectal Cancer. 2011 Jun 30.

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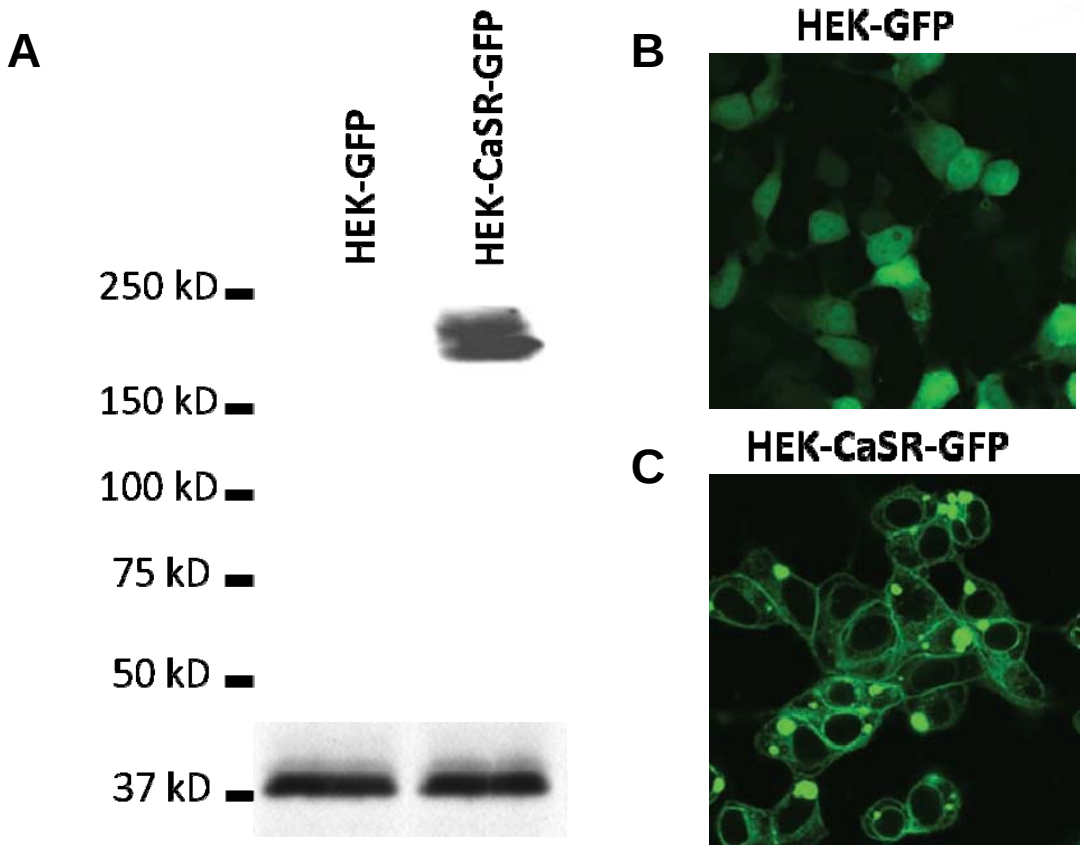
Validation Data



Overexpression of CaSR. (A) Western blot analysis and (B and C) fluorescent microscopy of HEK-GFP or HEK-CaSR-GFP cells. For Western blot analysis, PVDF were probed with the anti-CaSR (upper bands), and anti-GAPDH (lower band). n=3 HEK-GFP fluorescent image shows global GFP fluorescence while HEK-CaSR-GFP image shows fusion product.

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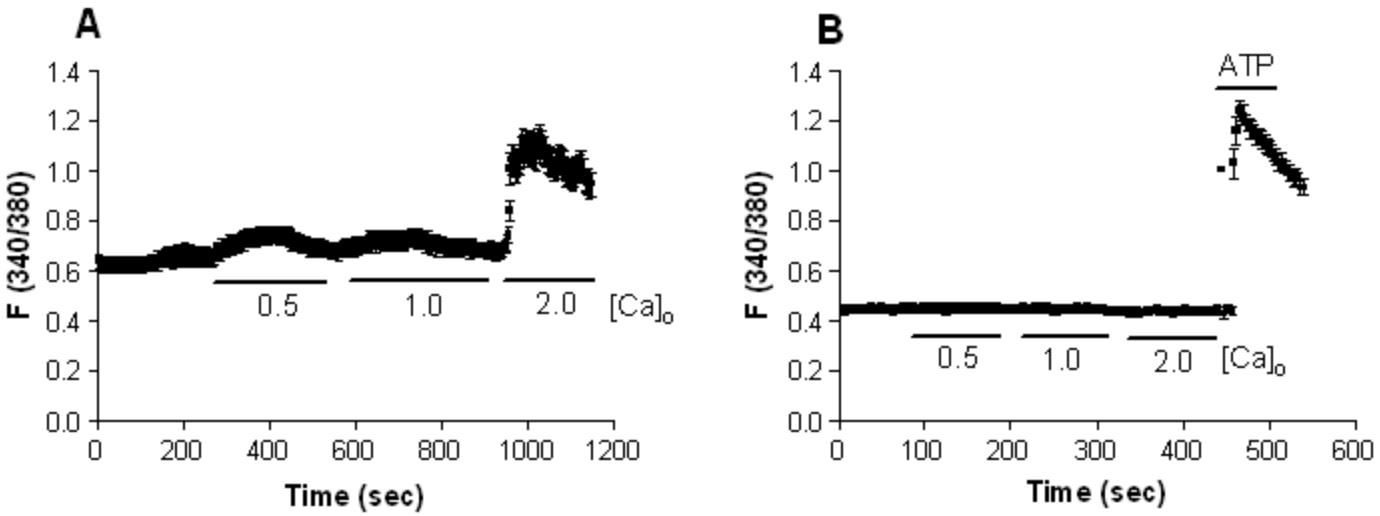

Functional validation of CaSR overexpression in HEK-293 cells. HEK cells grown on coverslips were loaded with a specific Ca^{2+} indicator, fura-2 AM, and then cytosolic free Ca^{2+} concentration ($[Ca^{2+}]_{cyt}$) in single cells was measured with a digital Ca^{2+} imaging system. **A.** Extracellular Ca^{2+} ($[Ca^{2+}]_o$) induced a significant $[Ca^{2+}]_{cyt}$ elevation in CaSR cell line. **B.** ATP (10 uM), but not $[Ca^{2+}]_o$, induced $[Ca^{2+}]_{cyt}$ elevation in control HEK-293 cells. N =40 cells for each group.