

# Product Data Sheet

# Inhibitors • Screening Libraries • Proteins

## **CSEN** Protein, Human (His)

Cat. No.:	HY-P75691
Synonyms:	Calsenilin; A-type potassium channel modulatory protein 3; DREAM; KCNIP3; KCHIP3
Species:	Human
Source:	E. coli
Accession:	Q9Y2W7 (M1-I256)
Gene ID:	30818
Molecular Weight:	Approximately 29 kDa

	PROPERTIES	
	FROFERIES	
	AA Sequence	MQPAKEVTKASDGSLLGDLGHTPLSKKEGIKWQRPRLSRQALMRCCLVKWILSSTAPQGSDSSDSELELSTVRHQPEGLDQLQAQTKFTKKELQSLYRGFKNECPTGLVDEDTFKLIYAQFFPQGDATTYAHFLFNAFDADGNGAIHFEDFVVGLSILLRGTVHEKLKWAFNLYDINKDGYITKEEMLAIMKSIYDMMGRHTYPILREDAPAEHVERFFEKMDRNQDGVVTIEEFLEACQKDENIMSSMQLFENVII
	Appearance	Lyophilized powder
	Formulation	Lyophilized from a 0.2 $\mu m$ filtered solution of 50 mM Tris-HCL, 300 mM NaCl, pH 8.0, 10% Glycerol.
	Endotoxin Level	<1 EU/µg, determined by LAL method.
	Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
	Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
	Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

### Background

CSEN, a calcium-dependent transcriptional repressor, binds to the DRE element of genes including PDYN and FOS. Its affinity for DNA is influenced by calcium, with reduced binding in the presence of calcium and enhanced binding when bound to magnesium. CSEN is implicated in nociception, suggesting a potential role in the regulation of pain sensation. Additionally, it serves as a regulatory subunit of Kv4/D (Shal)-type voltage-gated rapidly inactivating A-type potassium channels, specifically interacting with channels such as KCND2/Kv4.2 and KCND3/Kv4.3. CSEN modulates these channels'

expression at the cell membrane, influencing gating characteristics, inactivation kinetics, and the rate of recovery from inactivation in a calcium-dependent and isoform-specific manner. The diverse functions of CSEN highlight its involvement in both transcriptional regulation and the modulation of ion channel activity, suggesting a multifaceted role in cellular processes.

### Caution: Product has not been fully validated for medical applications. For research use only.

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