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## Product Data Sheet

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Product Name: CALB1 Human

Cat. No.: GP22951

Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Calbindin; Vitamin D-dependent calcium-binding protein; avian-type; Calbindin D28; D-28K; CALB1; CAB27; CALB; calbindin 1 28kDa.		
Amino Acid Sequence	MAESHLQSSL ITASQFFEIW LHFADGSGY LEGKELQNLI QELQQARKKA GLELSPMKT FVDQYGQRDD GKIGIVELAH VLPTEENFLL LFRCQQLKSC EEFMKTWRKY DTDHSGFIET EELKNFLKDL LEKANKTVDD TKLAEYTDLM LKLFDSNNDG KLELTEMARL LPVQENFLK FQGIKMCCKE FNKAFELYDQ DGNGYIDENE LDALLKDLCE KKNQDLINN ITTYKKNIMA LSDGGKLYRT DLALILCAGD N.		
Formulation	The CALB1 protein solution contains 20mM Tris-HCl buffer (pH8.0), 1mM DTT, 10% glycerol and 2mM EDTA.		

**Introduction**

Calbindin 1 (CALB1) is a calcium binding protein that is a member of the troponin C superfamily. CALB1 plays a vital role in calcium regulation (including calcium transport and uptake, calcification of bone and teeth) and calcium associated signaling in neurons and transiently in embryological development. CALB1 also has a role in protecting neurons from apoptotic cell death. CALB1 buffers cytosolic calcium and may stimulate a membrane Ca<sup>2+</sup>-ATPase and a 3',5'-cyclic nucleotide phosphodiesterase. The biological function of CALB1 seems to be tied to the redox state of its five cysteine residues. CALB1 has 4 active calcium-binding domains, and 2 modified domains that seemingly have lost their calcium-binding ability. CALB1 is expressed in neural tissues. In the brain, the CALB1 synthesis is independent of vitamin-D-derived hormones. Disregulation of the CALB1 is associated with epilepsy, amyotrophic lateral sclerosis, Huntington's disease. The neurons in brains of Huntington disease patients are calbindin-depleted.

**Stability**

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

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Background

CALB1 Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 261 amino acids (1-261 a.a.) and having a molecular mass of 30kDa. The CALB1 is purified by proprietary chromatographic techniques.

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