

# Cystathionine $\beta$ Synthase, Human Recombinant

**CATALOG #:** 7844-100 100  $\mu$ g  
7844-500 500  $\mu$ g

**ALTERNATIVE NAMES:** Beta-thionase, methylcysteine synthase, serine sulfhydrase

**SOURCE:** *E. coli*

**FORM:** Liquid

**FORMULATION:** 0.5 mg/ml in 50 mM Tris, 100 mM NaCl, pH 8.0 and 20% glycerol

**PURITY:**  $\geq$  90% by SDS-PAGE.

**MOL. WT.:** 61.9 kDa (1-551 aa, NT His Tag)

**SPECIFIC ACTIVITY:** 1.0 mU/mg

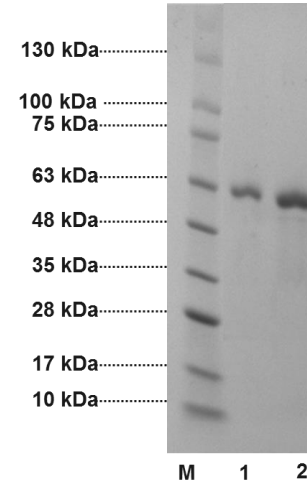
**UNIT DEFINITION:** One unit is defined as the amount of enzyme required to convert 1.0  $\mu$ mole of L-homocysteine to cystathionine and hydrogen sulfide per minute in 100 mM Tris pH 8.0 at 37 °C

**STORAGE CONDITIONS:** Store at  $-20^{\circ}\text{C}$ . Stable for at least 1 year as supplied. Avoid repeated freeze and thaw cycles.

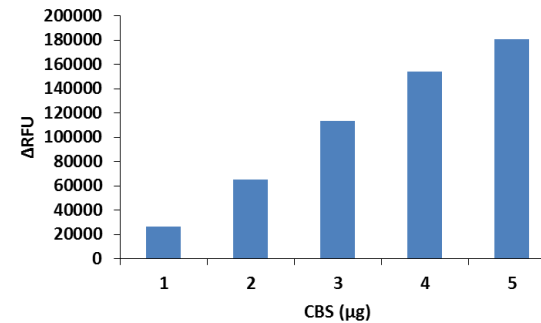
**BACKGROUND:** Cystathionine  $\beta$ -synthase (CBS; E.C. 4.2.1.22) is a PLP-dependent enzyme which plays a central role in sulfur amino acid metabolism in eukaryotes. CBS catalyzes condensation between serine and homocysteine to generate cystathionine, which is then further processed by cystathionine  $\gamma$ -lyase to yield cysteine. The gene encoding CBS is essentially linked to the genetic disorders of homocystinuria and Down syndrome. Homocystinuria is an autosomal recessive disease, characterized by high plasma levels of homocysteine, with clinical manifestations including mental retardation, thromboembolism and connective tissue. In addition, CBS also mediates synthesis of hydrogen sulfide by catalyzing condensation between defects cysteine and homocysteine. CBS is highly expressed in the nervous system, liver and kidney and is responsible for up to 95% of the  $\text{H}_2\text{S}$  production in the brain.

**ACTIVITY ASSAY:** BioVision's Cystathionine  $\beta$ -synthase is biologically active as determined by using the Cystathionine  $\beta$  Synthase Activity Assay Kit (Fluorometric) (Catalog # K998-100).

**APPLICATIONS:** Recombinant human Cystathionine  $\beta$  Synthase can be used in inhibitor screening assays, activity studies, selectivity profiling, western blotting, ELISA, and numerous similar applications.



**SDS-PAGE (4-20%) of h-CBS:**  
M: Protein Marker  
1: h-CBS (5  $\mu$ g)  
2: h-CBS (10  $\mu$ g)



**Determination of catalytic activity of purified CBS by measuring its ability to produce  $\text{H}_2\text{S}$**

**RELATED PRODUCTS:**

- Cystathionine  $\beta$  Synthase Activity Assay Kit (Fluorometric) (K998).
- CBS Antibody (Center) (6728)
- CBS Antibody (NT) (6729)

**For Research Use Only! Not to be used in humans.**

