

Abstract

The human cystine/glutamate antiporter xCT is a membrane protein transporter belonging to the family of Heteromeric Amino acid Transporters (HAT), which regulates the influx of L-Cystine (L-Cys²) and efflux of L-glutamate (L-Glu). xCT has been linked to several central nervous system functions and protection of the cell from oxidative stress. Delineating its structure would aid in understanding structure-function relationships, thereby help formulate therapeutic targets for diseases, build our understanding of the residues that aid in binding of the substrates and those that are critical for the permeation of the substrates across the membrane to give us an entire picture of the mechanism of an antiporter.