CAT-4 (B-2): sc-376557

BACKGROUND
As a member of the APC family of transporters, CAT-4 (cationic amino acid transporter 4), also known as Solute carrier family 7 member 4, is a 635 amino acid multi-pass membrane protein that is involved in the transport of the cationic amino acids, arginine, lysine, and ornithine. This uptake of cationic amino acids is designated “system y+”, which is pH insensitive, stereoselective, Na+ independent and inhibitable by neural amino acids in the presence of Na+. CAT-4 displays high sequence similarity with CAT-1 and CAT-2 and is expressed in testis, placenta, and brain. A microdeletion of the chromosomal band near the location of the gene encoding CAT-4 causes velocardiofacial syndrome (also known as DiGeorge syndrome), a disease that is characterized by several clinical findings, including conotruncal cardiac defects, prominent tubular nose, and a hypernasal voice. This suggests that CAT-4 may play a role in determining the velocardiofacial phenotype.

REFERENCES
1. Sperandeo, M.P., et al. 1998. The gene encoding a cationic amino acid transporter 4, also known as Solute carrier family 7 member 4, is a 635 amino acid multi-pass membrane protein that is involved in the transport of the cationic amino acids, arginine, lysine, and ornithine. Genomics 49: 230-236.

CHROMOSOMAL LOCATION
Genetic locus: SLC7A4 (human) mapping to 22q11.21; Slc7a4 (mouse) mapping to 16 A3.

SOURCE
CAT-4 (B-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 291-323 within an internal region of CAT-4 of human origin.

PRODUCT
Each vial contains 200 µg IgG, kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. CAT-4 (B-2) is available conjugated to agarose (sc-376557 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376557 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycocyanin (sc-376557 PE), fluorescein (sc-376557 FITC), Alexa Fluor® 488 (sc-376557 AF488), Alexa Fluor® 546 (sc-376557 AF546), Alexa Fluor® 594 (sc-376557 AF594) or Alexa Fluor® 647 (sc-376557 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376557 AF680) or Alexa Fluor® 790 (sc-376557 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376557 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS
CAT-4 (B-2) is recommended for detection of CAT-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CAT-4 siRNA (h): sc-72804, CAT-4 siRNA (m): sc-142027, CAT-4 shRNA Plasmid (h): sc-72804-SH, CAT-4 shRNA Plasmid (m): sc-142027-SH, CAT-4 shRNA (h) Lentiviral Particles: sc-72804-V and CAT-4 shRNA (m) Lentiviral Particles: sc-142027-V.

Molecular Weight of CAT-4: 68 kDa.

DATA
CAT-4 (B-2) sc-376557 Western blot analysis of CAT-4 expression in Hep G2 (A), JAR (B), Neuro-2A (C), KNRK (D) and PC-12 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

STORAGE
Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE
For research use only, not for use in diagnostic procedures.