

Prealbumin (E-4): sc-377178

BACKGROUND

Prealbumin, also designated transthyretin, is a major thyroid-hormone binding protein involved in transporting thyroxine from the bloodstream to the brain. Prealbumin is located in the cytoplasm and in the vesicles of developing rat brain cells, and is thought to be transported there from the cerebrospinal fluid via endocytosis. Sequence variants of this protein have been identified in amyloid fibrils from patients with familial amyloidotic polyneuropathy (FAP), the most common form of hereditary systemic amyloidosis. Although the biologically active form of Prealbumin is a tetramer, the amyloidogenic intermediate is thought to be a monomeric species. Prealbumin also binds to the retinol carrier protein RBP (retinol-binding protein). The gene encoding Prealbumin maps to human chromosome 18q12.1.

REFERENCES

1. Sparkes, R.S., et al. 1987. Assignment of the Prealbumin (PALB) gene (familial amyloidotic polyneuropathy) to human chromosome region 18q11.2-q12.1. *Hum. Genet.* 75: 151-154.
2. Christmanson, L., et al. 1991. The transthyretin cDNA sequence is normal in transthyretin-derived senile systemic amyloidosis. *FEBS Lett.* 281: 177-180.
3. Almeida, M.R., et al. 1996. Thyroxine binding to transthyretin (TTR) variants—two variants (TTR Pro 55 and TTR Met 111) with a particularly low binding affinity. *Eur. J. Endocrinol.* 135: 226-230.
4. Malpeli, G., et al. 1996. Retinoid binding protein and the interference with the interaction with transthyretin. *Biochem. Biophys. Acta* 1294: 48-54.
5. Quintas, A., et al. 1997. The amyloidogenic potential of transthyretin variants correlates with their tendency to aggregate in solution. *FEBS Lett.* 418: 297-300.
6. Kuchler-Bopp, S., et al. 1998. The presence of transthyretin in rat ependymal cells due to endocytosis and not synthesis. *Brain Res.* 793: 219-230.
7. Nettleton, E.J., et al. 1998. Protein subunits interactions and structural integrity of amyloidogenic transthyretins: evidence from electrospray mass spectrometry. *J. Mol. Biol.* 281: 553-564.

CHROMOSOMAL LOCATION

Genetic locus: TTR (human) mapping to 18q12.1.

SOURCE

Prealbumin (E-4) is a mouse monoclonal antibody raised against amino acids 1-147 representing full length Prealbumin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Prealbumin (E-4) is recommended for detection of precursor and mature Prealbumin of 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 Prealbumin siRNA (h): sc-39715, Prealbumin shRNA Plasmid (h): sc-39715-SH and Prealbumin shRNA (h) Lentiviral Particles: sc-39715-V.

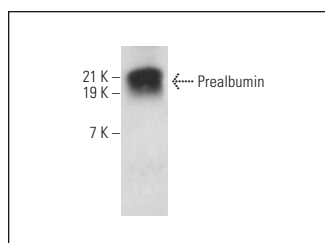
Molecular Weight of Prealbumin: 15 kDa.

Positive Controls: human plasma extract: sc-364374, H4 cell lysate: sc-2408 or human liver extract: sc-363766.

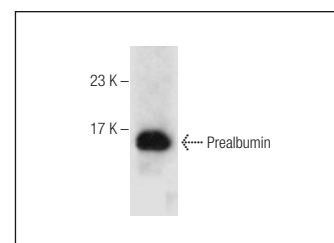
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Prealbumin (E-4): sc-377178. Western blot analysis of Prealbumin expression in human liver tissue extract.



Prealbumin (E-4): sc-377178. Western blot analysis of Prealbumin in human plasma.

SELECT PRODUCT CITATIONS

1. Bianchi, L., et al. 2021. Nusinersen modulates proteomics profiles of cerebrospinal fluid in spinal muscular atrophy type 1 patients. *Int. J. Mol. Sci.* 22: 4329.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.