



λ -crystallin (m2): 293T Lysate: sc-119478

BACKGROUND

Crystallins are divided into two classes: taxon-specific, or enzyme, and ubiquitous. The ubiquitous crystallins constitute the major proteins of the vertebrate eye lens, where they maintain the transparency and refractive index of the lens. The taxon-specific crystallins, also designated phylogenetically-restricted crystallins, include λ -, μ -, and ζ -crystallin, which all share homology to various enzymes. λ -crystallin is best described in rabbit, where it shares homology with L-3-hydroxyacyl-CoA dehydrogenase from pig. The human μ -crystallin gene maps to chromosome 16p13, and encodes a protein that is expressed in neural tissue, muscle and kidney. Unlike other crystallins, μ -crystallin does not perform a structural role in lens tissue, but rather it binds NADPH and thyroid hormone, which indicates that it may have other regulatory or developmental functions. ζ -crystallin/quinone reductase is present at low levels in human lens tissue. It has NADPH-dependent quinone reductase activity distinct from other known quinone reductases, and may play a role as a pH response element-binding protein.

REFERENCES

1. Mulders, J.W., et al. 1988. λ -crystallin, a major rabbit lens protein, is related to hydroxyacyl-coenzyme A dehydrogenases. *J. Biol. Chem.* 263: 15462-15466.
2. Chen, H., et al. 1992. Localization of the human gene for μ -crystallin to chromosome 16p. *Genomics* 14: 1115-1116.
3. Slingsby, C., et al. 1999. Structure of the crystallins. *Eye* 13: 395-402.
4. Tang, A. and Curthoys, N.P. 2001. Identification of ζ -crystallin/NADPH: quinone reductase as a renal glutaminase mRNA pH response element-binding protein. *J. Biol. Chem.* 276: 21375-21380.
5. Horwitz, J. 2003. α -crystallin. *Exp. Eye Res.* 76: 145-153.
6. Bhat, S.P. 2004. Transparency and non-refractive functions of crystallins—a proposal. *Exp. Eye Res.* 79: 809-816.
7. Paulin, D., et al. 2004. Desminopathies in muscle disease. *J. Pathol.* 204: 418-427.
8. LocusLink Report (LocusID: 1428). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Cyl1 (mouse) mapping to 14 C3.

PRODUCT

λ -crystallin (m2): 293T Lysate represents a lysate of mouse λ -crystallin transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

λ -crystallin (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive λ -crystallin antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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