

MIF4GD (m2): 293T Lysate: sc-125617

BACKGROUND

MIF4GD (MIF4G domain containing), also known as MIFD, AD023 or SLIP1, is a 222 amino acid protein that contains one MIF4G domain. Localized to both the nucleus and the cytoplasm, MIF4GD plays a role in the replication-dependent translation of histone mRNAs, which differ from most eukaryotic mRNAs in that they end with a stem-loop instead of a poly-A tail. Specifically, MIF4GD interacts with SLBP, eIF4G and DAP-5. Via its interaction with SLBP, MIF4GD is thought to be tethered to the stem-loops of histone mRNAs where it may facilitate the circularizing of the mRNAs, thereby enhancing their translation. Depletion of MIF4GD results in reduced histone translation and may lead to cell death, suggesting that MIF4GD plays an important role in cell survival. Two isoforms of MIF4GD exist due to alternative splicing events.

REFERENCES

1. Craig, A.W., Haghighat, A., Yu, A.T. and Sonenberg, N. 1998. Interaction of polyadenylate-binding protein with the eIF4G homologue PAIP enhances translation. *Nature* 392: 520-523.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 612072. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Lehner, B. and Sanderson, C.M. 2004. A protein interaction framework for human mRNA degradation. *Genome Res.* 14: 1315-1323.
4. Rual, J.F., Venkatesan, K., Hao, T., Hirozane-Kishikawa, T., Dricot, A., Li, N., Berriz, G.F., Gibbons, F.D., Dreze, M., Ayivi-Guedehoussou, N., Klitgord, N., Simon, C., Boxem, M., Milstein, S., Rosenberg, J., Goldberg, D.S., Zhang, L.V., et al. 2005. Towards a proteome-scale map of the human protein-protein interaction network. *Nature* 437: 1173-1178.
5. Lim, J., Hao, T., Shaw, C., Patel, A.J., Szabó, G., Rual, J.F., Fisk, C.J., Li, N., Smolyar, A., Hill, D.E., Barabási, A.L., Vidal, M. and Zoghbi, H.Y. 2006. A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. *Cell* 125: 801-814.
6. Hinton, T.M., Coldwell, M.J., Carpenter, G.A., Morley, S.J. and Pain, V.M. 2007. Functional analysis of individual binding activities of the scaffold protein eIF4G. *J. Biol. Chem.* 282: 1695-1708.
7. Cakmakci, N.G., Lerner, R.S., Wagner, E.J., Zheng, L. and Marzluff, W.F. 2008. SLIP1, a factor required for activation of histone mRNA translation by the stem-loop binding protein. *Mol. Cell. Biol.* 28: 1182-1194.

CHROMOSOMAL LOCATION

Genetic locus: Mif4gd (mouse) mapping to 11 E2.

PRODUCT

MIF4GD (m2): 293T Lysate represents a lysate of mouse MIF4GD transfected 293T cells and is provided as 100 µg protein in 200 µl 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.

APPLICATIONS

MIF4GD (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive MIF4GD antibodies. Recommended use: 10-20 µl 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.

PROTOCOLS

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