

HYI (R-11): sc-100494

BACKGROUND

Chromosome 1 is the largest human chromosome, spanning about 260 million base pairs and making up 8% of the human genome. Several disorders, including Stickler syndrome, Parkinsons, Gaucher disease, malignant melanoma and Usher syndrome, are caused by defects in the genes that localize to chromosome 1. HYI (hydroxypyruvate isomerase), also known as HT036 or SB156, is a 277 amino acid homolog of the *E. coli* *hyi* protein and is encoded by a gene that is located on chromosome 1. Functioning as an isomerase that enzymatically interconverts ketoses and aldoses, HYI catalyzes the reversible conversion of hydroxypyruvate to 2-hydroxy-3-oxopropanoate, a reaction that is inhibited by copper and iron. HYI is expressed as four isoforms due to alternative splicing events.

REFERENCES

- de Windt, F.E. and van der Drift, C. 1980. Purification and some properties of hydroxypyruvate isomerase of *Bacillus fastidiosus*. *Biochim. Biophys. Acta* 613: 556-562.
- Ashiuchi, M. and Misono, H. 1999. Biochemical evidence that *Escherichia coli* *hyi* (orf b0508, *gip*) gene encodes hydroxypyruvate isomerase. *Biochim. Biophys. Acta* 1435: 153-159.
- Blackwood, D.H., et al. 2001. Schizophrenia and affective disorders— cosegregation with a translocation at chromosome 1q42 that directly disrupts brain-expressed genes: clinical and P300 findings in a family. *Am. J. Hum. Genet.* 69: 428-433
- Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
- Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. *Nature* 441: 315-321.
- Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. *Anticancer Res.* 26: 953-959.

CHROMOSOMAL LOCATION

Genetic locus: HYI (human) mapping to 1p34.2.

SOURCE

HYI (R-11) is a mouse monoclonal antibody raised against recombinant HYI of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 0.1% stabilizer protein.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

HYI (R-11) is recommended for detection of HYI of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HYI siRNA (h): sc-78666, HYI shRNA Plasmid (h): sc-78666-SH and HYI shRNA (h) Lentiviral Particles: sc-78666-V.

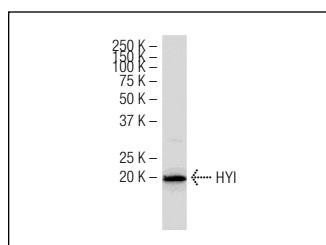
Molecular Weight of HYI isoforms 1/2/3/4: 30/22/31/26 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209.

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



HYI (R-11): sc-100494. Western blot analysis of HYI expression in HL-60 whole cell lysate.

RESEARCH USE

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