SANTA CRUZ BIOTECHNOLOGY, INC.

ASPM (K-17): sc-48883

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Microcephaly is a genetic disorder in which the affected individual has a head circumference less than three standard deviations below the sex- and age-related mean. The reason for the reduced head circumference is due to the formation of a small brain of normal proportions; all affected individuals are mentally retarded. ASPM (for abnormal spindle homolog, microcephaly associated), also designated microcephaly, primary autosomal recessive 5 (MCPH5), is caused by mutation in the ASPM gene. In a comprehensive mutation screen of the ASPM gene, 19 mutations were identified in a cohort of 23 consanguineous families. The mutations occur throughout the gene and are all assumed to be protein truncating. Research demonstrates that phenotypic variation in 51 affected individuals occurs in the degree of microcephaly (five to 11 SDs below normal) and of mental retardation (mild to severe), but appeared to be independent of mutation position in the gene.

REFERENCES

1. Perez-Castillo, A., et al. 1984. Is a gene for microcephaly located on chromosome 1? Hum. Genet. 67: 230-232.
2. Jamieson, C.R., et al. 2000. Primary autosomal recessive microcephaly: MCPH5 maps to 1q25-q32. Am. J. Hum. Genet. 67: 1575-1577.
3. Bond, J., et al. 2002. ASPM is a major determinant of cerebral cortical size. Nat. Genet. 32: 316-320.

CHROMOSOMAL LOCATION

Genetic locus: ASPM (human) mapping to 1q31.3; Aspm (mouse) mapping to 1 F.

SOURCE

ASPM (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ASPM of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-48883 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-48883 X, 200 µg/0.1 ml.

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.

PROTOCOLS

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

APPLICATIONS

ASPM (K-17) is recommended for detection of ASPM of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ASPM (K-17) is also recommended for detection of ASPM in additional species, including canine.

Suitable for use as control antibody for ASPM siRNA (h): sc-61006, ASPM siRNA (m): sc-61007, ASPM shRNA Plasmid (h): sc-61006-SH, ASPM shRNA Plasmid (m): sc-61007-SH, ASPM shRNA (h) Lentiviral Particles: sc-61006-V and ASPM shRNA (m) Lentiviral Particles: sc-61007-V.

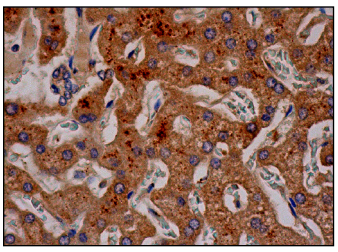
ASPM (K-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of ASPM: 410 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ASPM (K-17): sc-48883. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes and bile duct cells.

SELECT PRODUCT CITATIONS

1. Bikeye, S.N., et al. 2010. ASPM-associated stem cell proliferation is involved in malignant progression of gliomas and constitutes an attractive therapeutic target. Cancer Cell. Int. 10: 1.
2. Singhmar, P. and Kumar, A. 2011. Angelman syndrome protein UBE3A interacts with primary microcephaly protein ASPM, localizes to centrosomes and regulates chromosome segregation. PLoS ONE 6: e20397.