

Gene Section

Mini Review

MSN (moesin)

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Identity

Other names: moesin (membrane-organising extension spike protein)

HGNC (Hugo): MSN

Location: Xq11



Probe(s) - Courtesy Mariano Rocchi, Resources for Molecular Cytogenetics.

DNA/RNA

Transcription

3879 bp mRNA with a 1733 bp of coding sequence.

Protein

Description

576 amino acids, 75 kDa; contains in N-term a globular membrane binding domain (band 4.1 like domain (amino acids 57 to 224), known also as the four-point-one/ezrin/radixin/moesin domain, an alpha helix domain, and in C-term a domain which interact with actin filaments.

Expression

Wide; expressed differentially in microvilli and cell adhesion sites.

Function

Cytoskeleton protein; binds to the plasma membrane and interacts with actin/myosin; role in cell-cell recognition and signalling.

Homology

Ezrin, radixin, moesin are called the ERM proteins; they are members of the band 4.1 superfamily.

Implicated in

t(X;2)(q11;p23) --> MSN-ALK

Disease

Found in a case of ALK+ anaplastic large cell lymphoma.

Abnormal protein

1005 amino acids, 125 kDa; membrane restricted; 448 N-term amino acid from MSN, containing the band 4.1 like domain and most of the alpha helix domain, fused to the 557 (instead of the usual 562) C-term amino acids from ALK (i.e. the cytoplasmic portion of ALK with the tyrosine kinase domain).

Oncogenesis

Tyrosine kinase activity.

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