Title (en)

INHIBITION OF THE BINDING OF PROTEIN TYROSINE PHOSPHATASE PEST TO DOMAINS OF SIGNALLING PROTEINS

Title (de)

BEHINDERUNG DER VERBINDUNG ZWISCHEN PROTEIN TYROSIN-PHOSPHATASE PEST UND SIGNALPROTEINE

Title (fr)

AGENTS INTERFERANT AVEC LA LIAISON DE TYPROSINE-PHOSPHATASE PEST A DES DOMAINES DE PROTEINES DE SIGNALISATION EN TANT QU'INHIBITEURS DE MIGRATION CELLULAIRE ET/OU D'ADHESION FOCALE

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Application

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Abstract (en)

[origin: WO9961467A2] This invention relates to agents or compounds capable of interfering with the binding of protein tyrosine phosphatase PEST to protein domains of signalling molecules involved in cell migration, focal adhesion and/or cell proliferation, namely p130cas and paxillin. The agents can be derived from the minimal sequences found in binding studies. PTP-PEST is a conserved phosphatase essential for embryo development. Knock-out cells (PTP-PEST -/-) have been perpetuated from null embryos and they show defects in cell migration, focal adhesion and cell proliferation. Therefore, any agent capable of interfering with the activity of PEST in a diseased target tissue, is considered to be a potential therapeutic agent to treat any disease having any of the following etiological components: cell proliferation, cancer, metastasis, inflammation, and angiogenesis. This invention further relates to a method for finding genuine substrates for enzymes, namely phosphatases, combining gene targetting knock-out technique and substrate-trapping technique with the aid of a substrate binding inactive mutant enzyme. By using a gene targetting knock-out technique, there are less artefacts than by using other techniques (using vanadate compounds, for example) wherein an artificial non-specific increase of the level of hyperphosphorylation occurs.

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