Newly Described Peptide with Actin Stabilizing Activity (Ref. #1428)

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Technology description

Description

The cellular cytoskeleton functions to maintain the spatial shape and volume of mammalian cells; it is crucial for functions such as locomotion (migration), endocytosis, and phagocytosis. Actin is one of the key proteins of the cytoskeleton, and the physiologic assembly and disassembly of actin filaments in response to regulatory signals maintains homeostasis of cellular functions and responds to external stress to protect the cell. Actin filaments are often found in bundles called stress fibers, which terminate at the plasma membrane where they communicate with the extracellular matrix through focal adhesions and associated membrane proteins called integrins. Many different cells require actin for a wide variety of processes, such as cell movement and migration as well as maintaining homeostasis of the extracellular matrix and cell-cell junctions. So, the cytoskeleton is a central part of the cellular machinery in virtually all cells and all tissues of the body.

Additional

There are a number of laboratory reagents that are highly useful in research as cytoskeletal inhibitors, but there are fewer laboratory reagents with cytoskeletal stabilizing effects. Agents that seemingly bolster actin assembly may find use as valuable tools in research exploring cell migration for example.

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