

Title (en)
Protein-protein interactions and methods for identifying them

Title (de)
Verfahren zur Identifizierung von Modulatoren wechselwirkender Proteine

Title (fr)
Procédé d'identification de modulateurs de protéines interagissantes

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Application
EP 06000197 A 20000512

Priority

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Abstract (en)

The invention relates to protein-protein interactions and methods for identifying interacting proteins and the amino acid sequence at the site of interaction. Using overlapping hexapeptides that encode for the entire amino acid sequences of the linker domains of human P-glycoprotein gene 1 and 3 (HPgp1 and HP-gp3), a direct and specific binding between P-gpl and 3 linker domains and intracellular proteins was demonstrated. Three different stretches (617 EKGIFYFKLVTM 627 , 658 SRSSLIRKRSTRRSVRGSOA 677 and 694 PVSFWRIMKLNLT 706 for P-gpl and 618 LMKKEGVYFKLVNM 631 , 648 KAA-TRMAPNGWKSRLFRHSTQKNLKNS 674 and 695 PVSFLKVLKLNKT 677 for P-gp3) in linker domains bound to proteins with apparent molecular masses of ~80 kDa, 57 kDa and 30 kDa. The binding of the 57 kDa protein was further characterized. Purification and partial N-terminal amino acid sequencing of the 57 kDa protein showed that it encodes the N-terminal amino acids of alpha and beta-tubulins. The method of the present invention was further validated with Annexin. The present invention thus demonstrates a novel concept whereby the interactions between two proteins are mediated by strings of few amino acids with high and repulsive binding energies, enabling the identification of high-affinity binding sites between any interacting proteins.

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