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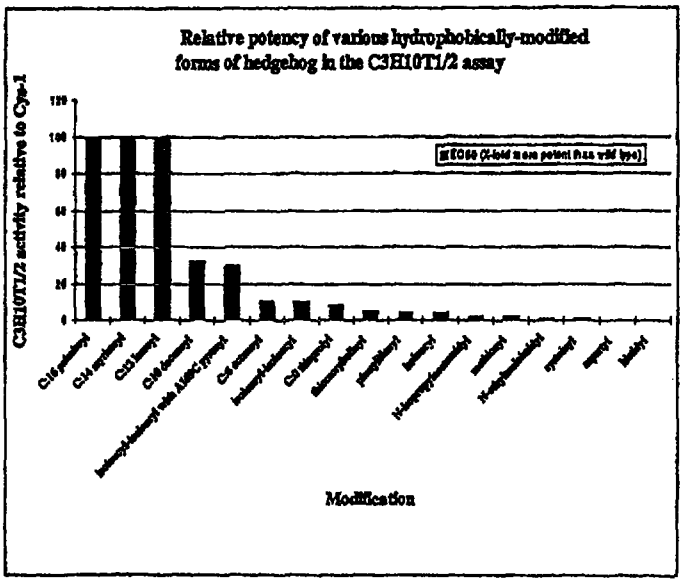
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(54) Title: HYDROPHOBICALLY-MODIFIED PROTEIN COMPOSITIONS AND METHODS



(57) Abstract

Hydrophobically-modified proteins and methods of making them are described. A hydrophobic moiety is attached to a surface amino acid residue of the protein. The hydrophobic moiety can be a lipid or a peptide. Alternatively, the protein can be derivatized by a wide variety of chemical reactions that append a hydrophobic structure to the protein. The preferred protein is of mammalian origin and is selected from the group consisting of Sonic, Indian, and Desert hedgehog. The hydrophobic moiety is used as a convenient tether to which may be attached a vesicle such as a cell membrane, liposome, or micelle.