Title (en)

METHOD OF INHIBITING REDUCTION OF DISULFIDE BONDS.

Title (de)

Verfahren zur Hemmung der Reduktion der Disulfidbrücke.

Title (fr)

PROCEDE POUR INHIBER LA REDUCTION DE PONTS DISULFURE.

Publication

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Application

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Priority

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Abstract (en)

[origin: WO9404185A2] This invention pertains to a method of altering (inhibiting or enhancing), directly or indirectly, reduction of disulfide bonds of membrane-bound macromolecules, particularly proteins, and, as a result, inhibiting (totally or partially) or enhancing the cellular penetration and the respective effects of these macromolecules. In particular, the present invention relates to a method of inhibiting, directly or indirectly, the reductive function of cell membranes, particularly the cell surface (plasma) membrane, which is capable of cleaving disulfide bonds in membrane-bound proteins which must be cleaved for the proteins to enter cells and produce their respective effects on cells they have entered. Cleavage of disulfide bonds in this manner is a metabolic step required for the ultimate function of the protein or macromolecule. As described herein, applicant has demonstrated that the reductive function of cell surface membranes is catalyzed by protein disulfide isomerase (PDI). The method of the present invention is useful to prevent adverse effects of toxins, such as diphtheria toxin, on cells. It is also useful in preventing infection (e.g., viral or bacterial) or the spread of an established infection. The method may also be useful in enhancing uptake of macromolecules whose presence within a cell is desired.

IPC 1-7

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