A Biochemical Approach for Detecting Interactions between Peptides from the HIV gp120 Glycoprotein and a CD4 Sequence

Alberto Chersi[*,a], Giuliana Falasca[a], and Walter Malorni[b]

[a] Regina Elena Institute for Cancer Research, Lab of Biochemistry, Via delle Messi d'oro 156, 00158 Rome, Italy. Fax: 0039-06-5266-2505. E-mail: biochimica@ifo.it
[b] Istituto Superiore della Sanita', Viale Regina Elena 299, 00161 Rome, Italy

* Author for correspondence and reprint requests

Z. Naturforsch. **59 c**, 734–738 (2004); received February 2/June 14, 2004

Peptides selected from the HIV viral protein gp120 bind to a synthetic peptide mimicking sequence 78–89 of the human lymphocyte CD4 molecule, linked to activated Sepharose. The binding of viral fragments to the CD4 peptide-Sepharose beads was ascertained either by aid of a ninhydrin reagent or by fluorescence microscopy. A suitable alignment of these HIV peptides with the CD4 fragment showed that multiple interactions might occur between hydrophobic or charged groups of the two molecules. Although this experiment does not demonstrate that these two amino acid stretches are involved in the primary binding of gp120 to CD4 receptors, the present data suggest that the two sequences might have some kind of interaction during subsequent steps of viral infection.

Key words: Peptide-Peptide Interactions, HIV, CD4