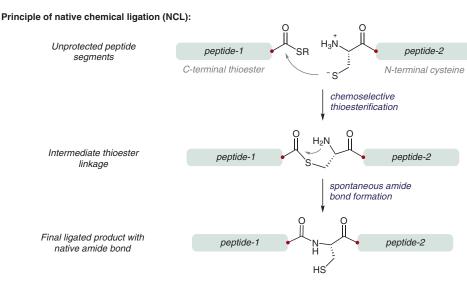
P. E. DAWSON, T. W. MUIR, I. CLARK-LEWIS, S. B. KENT* (THE SCRIPPS RESEARCH INSTITUTE, LA JOLLA, USA)

Synthesis of Proteins by Native Chemical Ligation

Science 1994, 266, 776-779.

Synthesis of Human Interleukin-8 by Native Chemical Ligation



Synthesis of human interleukin 8 (IL-8) via NCL:

Significance: The realization that unprotected peptide thioesters react chemoselectively with unprotected *N*-terminal cysteine residues to form amide linkages is an important advancement in protein synthesis. Native Chemical Ligation (NCL) allows synthetic access to proteins of moderate size.

Comment: NCL proceeds by the formation of an intermediate thioester linkage with cysteine that then spontaneously rearranges to the native amide bond. This strategy was applied to the total chemical synthesis of human interleukin 8 (IL-8), a 72-amino acid protein containing four cysteine residues.

SYNFACTS Contributors: Dirk Trauner, Julius R. Reyes Synfacts 2019, 15(04), 0439 Published online: 19.03.2019 **DOI:** 10.1055/s-0037-1612404; **Reg-No.:** T01919SF

Category

Chemistry in Medicine and Biology

Key words

peptide synthesis native chemical ligation protein synthesis human interleukin 8

