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RESUMENES
ABSTRACTS
RÉSUMÉS

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EXTRACELLULAR, PENICILLIN-RESISTANT
DD CARBOXYPEPTIDASE FROM
STREPTOMYCES SP

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Absolute activities, K_m and V_{max} values for the combination reactions between the DD carboxypeptidase and sensitive peptides were determined. The *S. albus* G carboxypeptidase hydrolyzes C-terminal D-Ala-Gly, N α -(D-Ala)-D- and Gly-D-Ala linkages. The side chain of the C-terminal D-residue may be a long peptide sequence. On such substrates, the DD carboxypeptidase seemingly acts as an endopeptidase. When D-alanine is the penultimate amino acid, the K_m values for the combination reactions are essentially controlled by the structure of the L-amino acid preceding the C-terminal linkages. The *S. albus* G and the *E. coli* carboxypeptidases (Araki et al., 1968; Izaki and Strominger, 1968; Bogdanovsky et al., 1969) have similar, perhaps identical properties except that penicillins inhibit the *E. coli* enzyme whereas they have no or very little effect on the *Streptomyces* enzyme. The *Streptomyces* carboxypeptidase appears as a model for the study of a mechanism of penicillin resistance that does not involve the enzymatic degradation of the antibiotic. The relationship between the hydrolytic DD carboxypeptidases and the biosynthetic membrane-bound transpeptidases and the mechanism of action penicillins are discussed.