

Gln-Gly CLEAVAGE, GAMMA GLUTAMATE SHIFT AND BACTERIAL DEGRADATION OF PROLINE RICH PROTEINS

William J. Griffiths and Andreas Jonsson

Department of Medical Biochemistry & Biophysics, Karolinska Institutet, SE-17177 Stockholm, Sweden

In a recent analysis of the proline rich proteins PRP-1 and PRP-3 we noted a particular facile cleavage between Q and G residues when their tryptic peptides were submitted to collision induced dissociation (CID). This cleavage was most significant in the PQGPP motif. Significantly, PRPs are degraded by bacteria by a Q-G cleavage. We propose a mechanistic link between the proton catalysed CID, acid catalysed bacterial degradation and the well-known solution phase gamma glutamate shift.
