

TABLE I

*Kinetic parameters of protein degradation by the proteasome*

The number of protein molecules degraded and peptide bonds cut by a single proteasome particle per min were determined by division of the corresponding cleavage rate (as described under "Experimental Procedures") by the proteasome concentration measured by the methods of Bradford or Lowry with similar results. The number of cuts in the molecule made (column 5) was determined by dividing the number peptide bonds cleaved (column 4) by the number of substrate molecules degraded (column 3). See Fig. 1 for an explanation of the calculations.

Substrate	No. of residues	Protein molecules degraded/min	Peptide bonds cut/min	Cuts/molecule
Alkaline phosphatase	471	0.22	16	71
Casein	209	1.1	19	19
Lactalbumin	123	3.2	45	14
IGF	70	5.6	61	11