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Proteasome

National Cancer Institute

Source

National Cancer Institute. *Proteasome*. NCI Thesaurus. Code C13314.

Proteolytic complexes, proteolytic core of the proteasome system, that degrade cytosolic and nuclear proteins are implicated in ATP dependent ubiquitin protein complex degradation and in antigen processing in antigen presenting cells. The 20S proteasome (700 kD), essential in ATP ubiquitin degradation pathway, has 13-15 subunits each of which has three or four different peptidase activities. The 20S proteasome interacts with additional subunits, PA700 and PA28, to form an ATP-dependent multicatalytic proteinase complex (MPC) involved in the degradation of ubiquitinated cellular proteins and certain non-ubiquitinated proteins. 26S proteasomes may be formed in an ATP dependent fashion from a 20S proteasome and additional components, CF1 (660 kD), CF2 (250 kD) and CF3 (600 kD).