

**CALCULATED ENERGY COSTS AND TIME REQUIRED FOR THE DEGRADATION OF
UBIQUITINATED PROTEINS BY MAMMALIAN 26S PROTEASOMES**

Substrate	Ub₅-DHFR		Ub_n-Sic1
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Molecular Weight			
(without ubiquitin)	21,500	21,500	38,000
V_{max} (molecules/min/26S)*	4.7	2.7	2.3
Time to Degrade (seconds)	13	23	26
Energy Cost (ATP/molecule)	50-80	90-140	100-160

* V_{max} values were calculated as shown in Figure 3. The time to degrade one substrate molecule per 26S is calculated as 1/V_{max}. The presence of folic acid slowed Ub₅-DHFR degradation down to 57% of the control as shown in Figure 4.