

COMPOUNDS FOR PROTEASOME ENZYME INHIBITION

ABSTRACT

Peptide-based compounds including heteroatom-containing, three-membered rings efficiently and selectively inhibit specific activities of N-terminal nucleophile (Ntn) hydrolases. The activities of those Ntn having multiple activities can be differentially inhibited by the compounds described. For example, the chymotrypsin-like activity of the 20S proteasome may be selectively inhibited with the inventive compounds. The peptide-based compounds include at least three peptide units, an epoxide or aziridine, and functionalization at the N-terminus. Among other therapeutic utilities, the peptide-based compounds are expected to display anti-inflammatory properties and inhibition of cell proliferation.