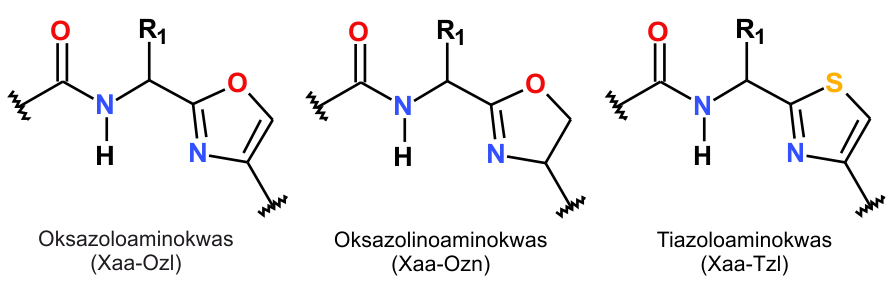
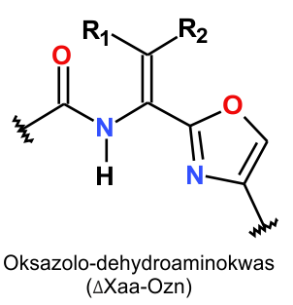
NATURALLY OCCURRING AMINO ACID RESIDUES WITH HETEROCYCLIC RINGS

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In nature exists many modifications of standard amino acids residues. Some of them contain heterocyclic residues wit thiazole (Tzl), oxazole (Ozl) or oxazoline (Ozn) ring instead of the C-terminal amide group. These amino acids are called oxazole-, thiazole- or oxazolineamino acids. A double bond between α and β carbon atoms (α,β-dehydro-amino acids) is another modification (see Fig. 1). These amino acids residues occur in numerous peptide (*Tiopeptides* and *Cyjanobactins*) produced by bacteria, mainly Streptomyces. The corresponding peptides reveal antibacterial, antitumor or antiparasite activities[1-5](#_ENREF_1" \o "Bagley, 2005 #4). More than 250 different peptides include amino acids residues with heterocycles formed by 60 different units. Such compound can be an inspiration for designing new drugs. The current work focuses on atomistic characterization of amino acid residue structure using molecular modeling and biological properties of the formed peptides.



ΔXaa-Ozl Xaa-Ozl Xaa-Ozn Xaa-Tzl

Figure 1. Amino acid residues with heterocycles.

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