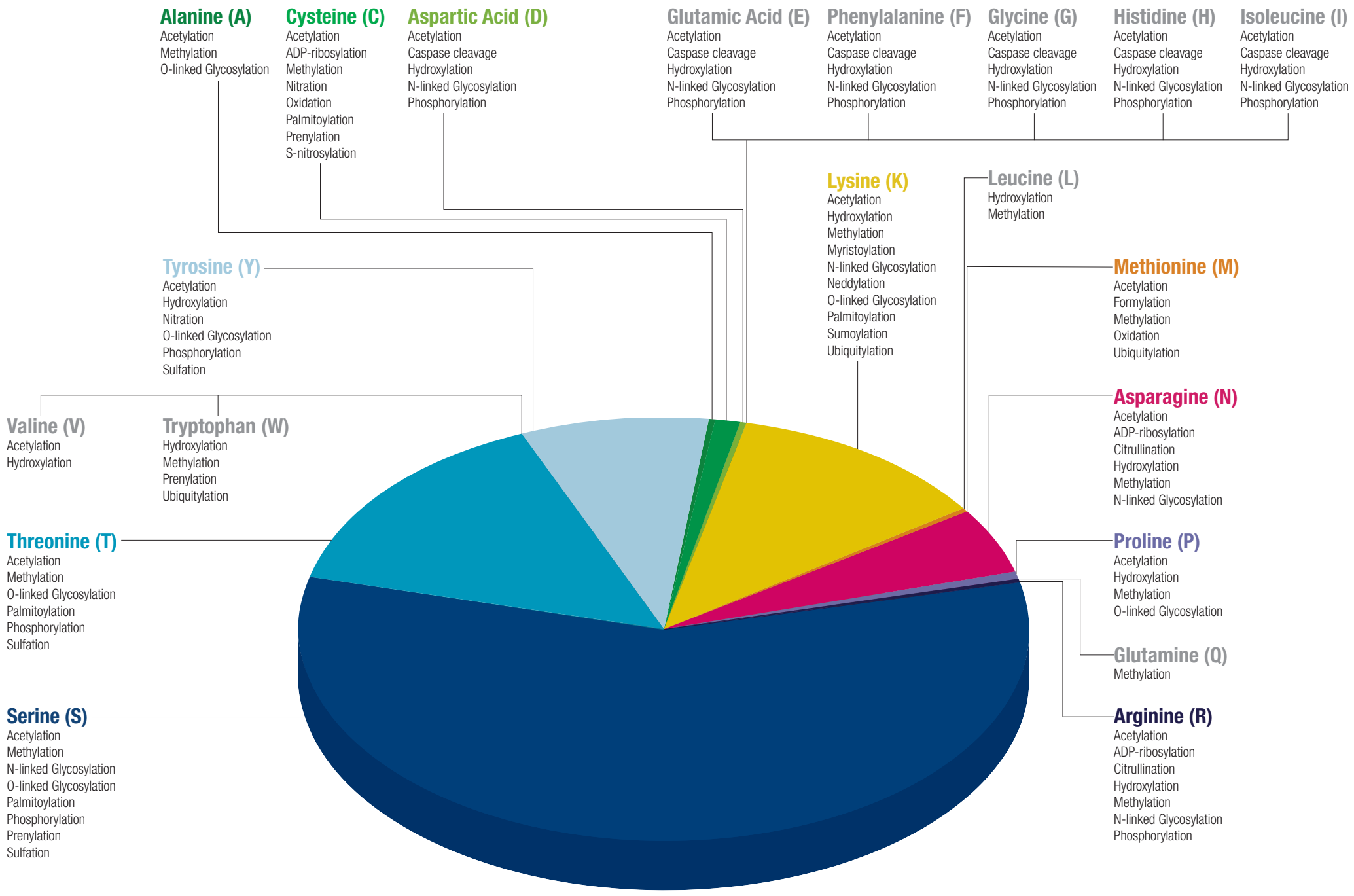
Post-translational Modifications of Amino Acids

Post-translational modifications (PTMs) such as phosphorylation, acetylation, methylation, ubiquitylation, and others are critical regulators of protein activity and function. Understanding the role of PTMs in disease states is an ongoing effort towards the development of novel biomarkers and therapeutics.

Distribution of post-translational modifications across amino acids



Abundance of post-translation modifications for each amino acid

AMINO ACIDS

MODIFICATION	A	C	D	E	F	G	H	I	K	L	M	N	P	Q	R	S	T	V	W	Y
Acetylation	●●●●●●●	◖	◖	◖		◖			●		●●●●		◖		◖	●●●●	●	◖		◖
ADP-ribosylation		◖					◖					◖			●					
Caspase cleavage			●●●	◖																
Citrullination															◖					
Formylation											◖									
Hydroxylation			◖	◖	◖		◖	◖	●	◖		◖	●		◖			◖	◖	●
Methylation	◖	◖			◖		◖		●●●●●●	◖	◖	◖	◖	◖	●●●●●●●	◖	●		◖	
Myristoylation						●◖			◖											
N-linked Glycosylation			◖				◖	◖	●			●◖			◖	◖				
Neddylation									◖											
Nitration		◖																		◖
O-linked Glycosylation	◖								◖		●◖		◖			●	●			◖
Oxidation		◖									●●◖									
Palmitoylation		●●●				◖			◖							◖	◖			
Phosphorylation			◖	◖			◖								◖	>150000	●●●●			●●
Prenylation		◖														◖				◖
S-nitrosylation		●●																		
Sulfation																◖	◖			●◖
Sumoylation									●●●●●●●											
Ubiquitylation		◖						◖	●●		●									◖

KEY

◖ <100 ● 100 ◖ ≤500 ● 1000 ◖ ≤5000 ● 10000

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