

Post-Translational Modifications

From stem cells to aging and disease, post-translational modifications (PTMs) underlie the incredible scale and dynamics of the proteome. Make sense of your cell signaling pathways by detecting and measuring PTMs.

Antibody Validation

With the combined expertise of Upstate®, Chemicon®, and Calbiochem®, EMD Millipore's extensive, focused portfolio of thoroughly validated pan and modification-specific antibodies can advance your cell signaling research.

Much like Anti-Ubiquitin Antibody, Lys48-specific (Cat. No. 05-1307) shown here, our antibodies are thoroughly validated using various techniques such as Western blot (WB), immunohistochemistry (IHC), immunocytochemistry (ICC), and flow cytometry (FC).

Antibody Specificity

From extremely specific targets like N1- or N3-Phosphohistidine, to the broadly versatile pan phospho-tyrosine 4G10®, EMD Millipore's precision antibodies and validation data give you confidence in your results.

Histidine phosphorylation can occur at either N1 (1-pHis) or N3 (3-pHis) of the imidazole ring, and the positioning may be critical in signaling events. Selectively detect histidine phosphorylation using:

- Anti-N1-Phosphohistidine (1-pHis), clone SC1-1 (Cat. No. MABS1330)
- Anti-N1-Phosphohistidine (1-pHis), clone SC50-3 (Cat. No. MABS1341)
- Anti-N3-Phosphohistidine (3-pHis), clone SC28-6 (Cat. No. MABS1351)
- Anti-N3-Phosphohistidine (3-pHis), clone SC56-2 (Cat. No. MABS1352)

Antibody Conjugations

EMD Millipore's numerous directly conjugated primary antibodies to PTMs enable more convenient ICC protocols as well as advanced antibody applications like multiplexed staining and flow cytometry.

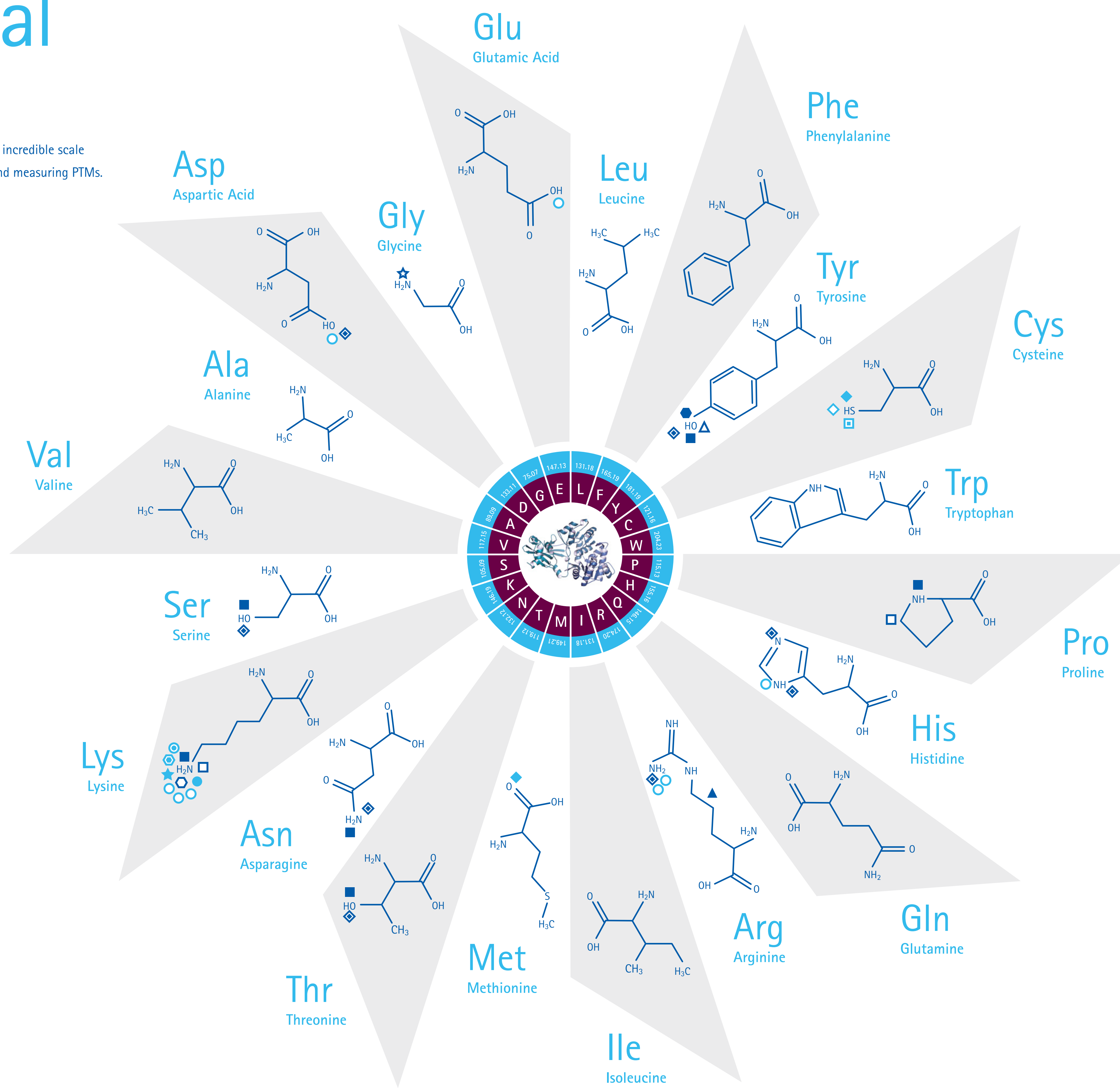
Anti-phospho-Akt1/PKBα (Ser473) Antibody, clone 11E6, Alexa Fluor® 555 (Cat. No. 16-306). Detect Serine473 phosphorylation of Akt1/PKBα (red).

Anti-phospho Histone H3 (Ser10), Alexa Fluor® 647 (Cat. No. 06-570-AF647). Detect phosphorylated histone H3 at Serine10 (yellow).

Immunoassays

From epigenetic modifications to phospho signaling, EMD Millipore's unique precision immunoassays, including the MILLIPLEx® MAP Cell Signaling portfolio, allow you to investigate expression of intracellular total or phosphorylated proteins in multiple key signaling pathways simultaneously in the same sample.

The MILLIPLEx® MAP Cell Signaling Magnetic Bead Kit, 6-plex Kit (Cat. No. 48-630MAG) is one of our many Cell Signaling multiplex assay kits. This kit includes the following analytes: c-Myc (total), and phosphorylated FADD (Ser194), IKKα/β (Ser177/Ser181), IκBα (Ser32), NF-κB (Ser36), and TNFR1 (total).



Post-Translational Modifications	Change in Molecular Weight (Da)	Post-Translational Modifications	Change in Molecular Weight (Da)	Post-Translational Modifications	Change in Molecular Weight (Da)
● Acetylation	42.0373	□ Hydroxylation	15.9994	◇ Palmitoylation	238.23
▲ Citrullination or Deimination	<1	○ Methylation	14.0269	◆ Phosphorylation	79.9799
⊕ Crotonylation	68.0230	☆ Myristoylation	210.3598	● Sulfation	80.0624
⊞ Farnesylation	204.3556	⊙ Neddylaton	9072	⊕ Sumoylation	~12,000
■ Glycosylation	Varies per MW of conjugated saccharide	▲ Nitration	44.985	★ Ubiquitination	114.043
		◆ Oxidation	15.9994		