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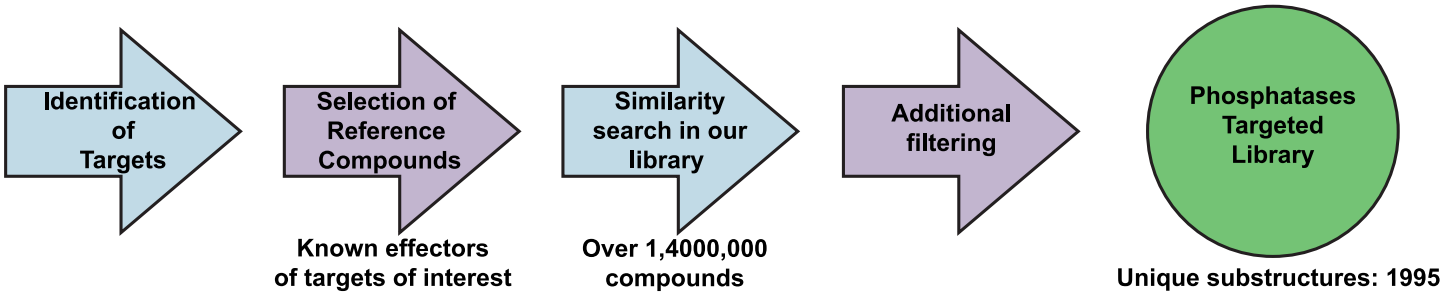
PHOSMARK

Phosphatases Targeted Library

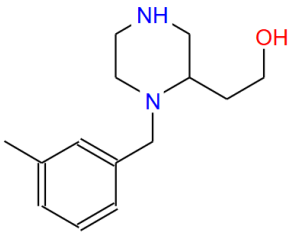
Human phosphatases are essential regulators of cellular signaling, functioning as critical counterparts to kinases by remov- ing phosphate groups from proteins and lipids. They maintain metabolic homeostasis, control cell growth, and orchestrate immune responses. Their dysfunction is directly linked to cancer, diabetes, neurodegenerative disorders, and autoimmune diseases. Despite their therapeutic potential, phosphatases remain vastly underexploited compared to kinases, largely due to challenges like catalytic site conservation and poor drug bioavailability. The development of selective phosphatase modu- lators has been slow, leaving many diseases without targeted treatment options. Advances in structural biology and fragment-based screening now offer pathways to overcome historical obstacles, making phosphatases a promising frontier for next-generation precision medicines that restore balanced signaling in pathological conditions.



Example Targets:

SHP2 Protein Tyrosine Phosphatase 1B

CDC25B



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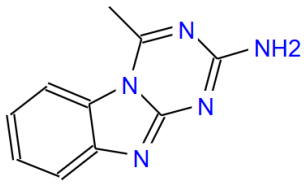

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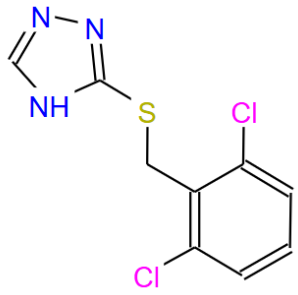
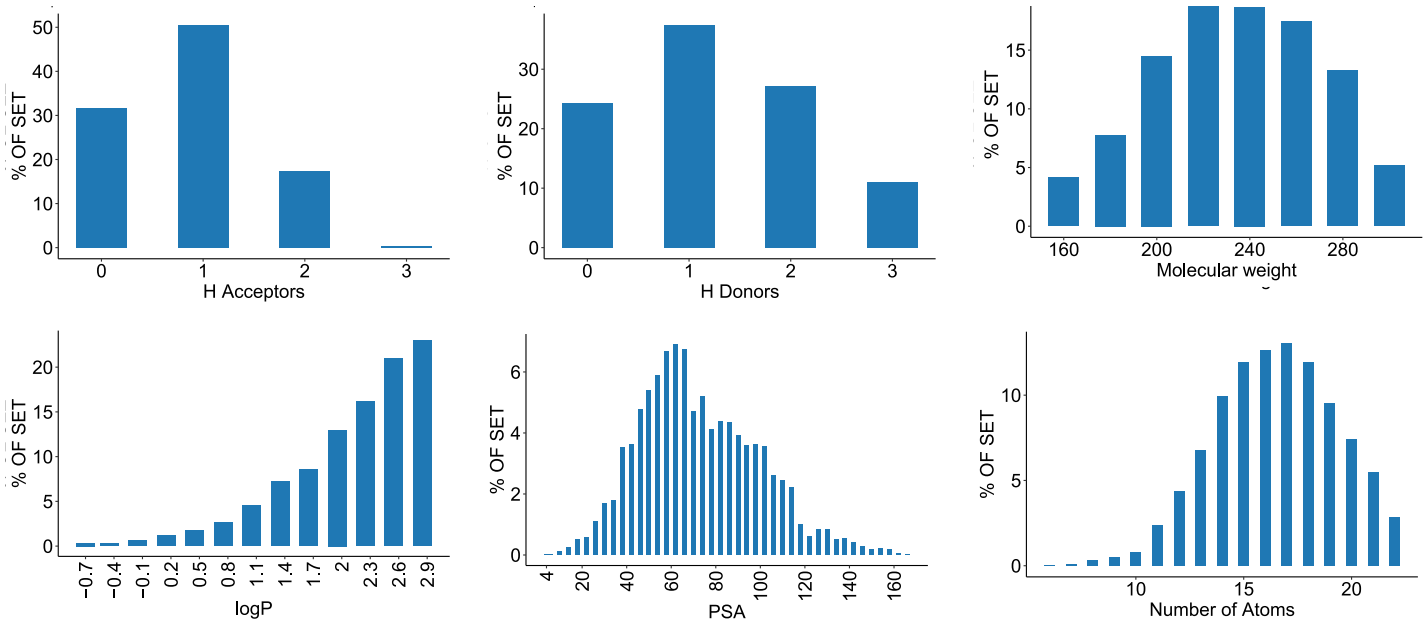


STK508303

The Phosphatases Targeted Library (PHOSMARK) is a collection of 3191 rule-of-five compliant compounds designed to potentially modulate human phosphatase' activity. Each compound was selected based on structural similarity to known phosphatase modulators, ensuring high biological relevance. The library emphasizes broad structural diversity and optimal drug-like properties while excluding compounds with undesirable motifs. PHOSMARK serves as an ideal starting point for high-throughput screening campaigns, providing a rich source of novel chemical matter for discovering new therapeutics targeting phosphatase-driven diseases such as cancer, diabetes, and autoimmune disorders.

Distribution of Parameters



If you have any specific needs for your project, we can provide specially tailored compound library based on your request.

Have questions or need a quote? Contact Irina Haywood (Ryabushenko) at
irina@vitasmlab.biz
Let's Connect on LinkedIn! Expand your professional network.

We look forward to collaborating with you!
Empowering Your Research, One Molecule at a Time.