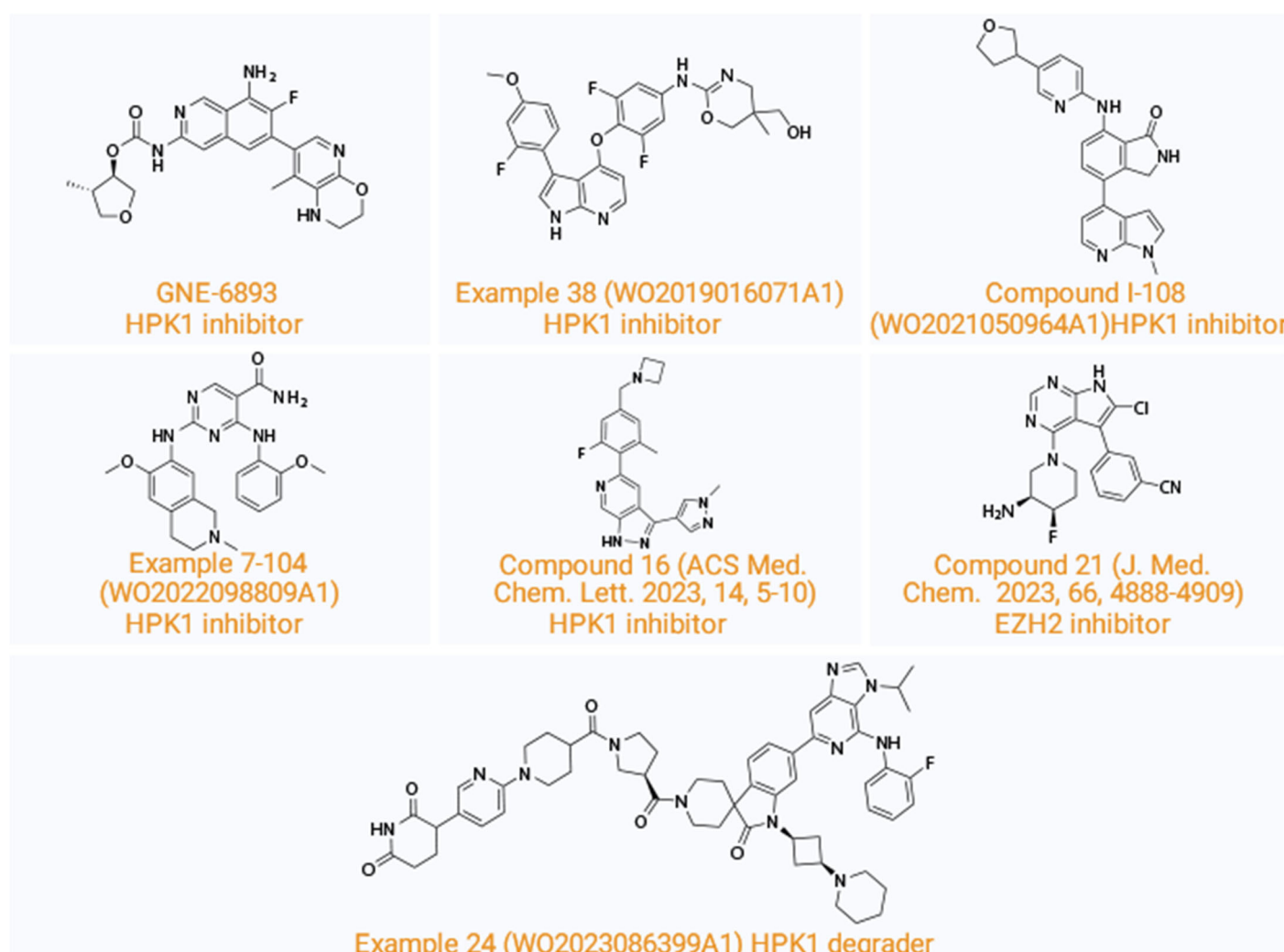


The hematopoietic progenitor kinase 1 (HPK1), also known as MAP4K1, is a member of the mammalian Ste20-like family of serine/threonine kinases that operates via the JNK and ERK signalling pathways^[1]. HPK1 is a negative immune regulator of T cell receptor (TCR) and B cell signaling that is primarily expressed in hematopoietic cells. Studies using HPK1 kinase-dead knock-in mouse models have demonstrated that HPK1 kinase activity limits TCR signaling and cytokine production. In preclinical syngeneic models, loss of HPK1 kinase function was found to suppress tumor growth. These findings have validated HPK1 as a novel target for anti-cancer immunotherapy. Inhibition of HPK1 with small molecule inhibitors therefore has the potential to be a treatment for cancers and other disorders. To date, no HPK1 inhibitors have been approved by FDA and more than nine HPK1 inhibitors have entered into clinical trials^[2-10].



A series of building blocks will be used as molecular fragments in the design of HPK1 inhibitors.

[1] Journal of Medicinal Chemistry (2022), 65, 12, 8065-8090.

[2] Journal of Medicinal Chemistry (2023), 66, 1, 611-626.

[3] Journal of Medicinal Chemistry (2023), 66, 7, 4888-4909.

[4] European Journal of Medicinal Chemistry (2020), 203, 112517.

[5] European Journal of Medicinal Chemistry (2022), 244, 114819.

[6] Organic Process Research & Development (2023), 27, 3, 523-529.

[7] ACS Medicinal Chemistry Letters (2023), 14, 1, 5-10.

[8] WO2021050964A1.

[9] WO2022098809A1.

[10] WO2023086399A1.

