**Some details of the samples:**

1. **Ac-MnSOD peptide:** Acetylated peptide substrate

Sequence: KGELLEAI(K-Ac)RDFGSFDKF

MW: 2141.41 g/mol

1. **DeAc-MnSOD peptide:** Non-acetylated peptide (product)

Sequence: KGELLEAIKRDFGSFDKF

MW: 2100.42 g/mol

1. **Modulator (SM):** Honokiol (5,3′-Diallyl-2,4′-dihydroxybiphenyl)

MW: 266.33 g/mol

CAS Number: 35354-74-6

Solubility: Based on a solubility study, Honokiol has a maximum solubility of 0.12 mg/ml or 450 micro M in the reaction buffer, containing 5% DMSO.

**Estimated binding affinity, Km and saturating concentrations:**

1. **Modulator (Honokiol):** Binding affinity of Honokiol to Sirt3 is estimated to be in the **micro M range**.
2. **Ac-MnSOD peptide:**

* **Km** of the substrate peptide is estimated to be in the range of **50-100 micro M.**
* **Saturating concentration** estimated to be around **600 micro M.**

1. **NAD:**

* **Km** of NAD is estimated to be around **600** **micro M.**
* **Saturating concentration** estimated to be around **2.5 mM.**