SLU-PP-332
Research Applications

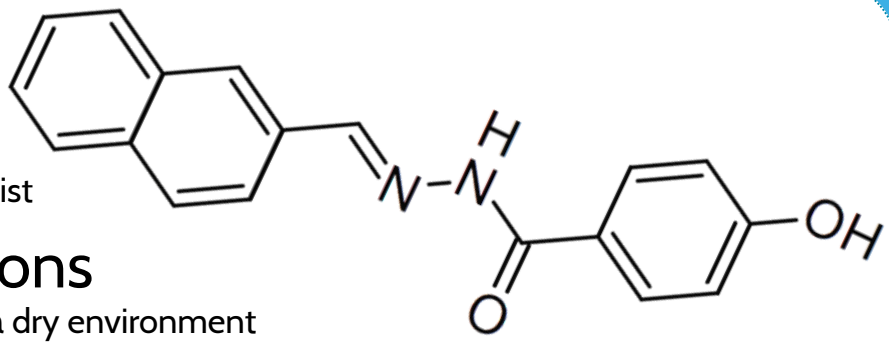
US Peptide Co

Mechanism of Action

SLU-PP-332 is a selective inverse agonist of estrogen-related receptor alpha (ERRα), a nuclear receptor that regulates mitochondrial biogenesis and cellular energy metabolism. In research models, SLU-PP-332 binding to ERRα reduces the receptor's constitutive activity, leading to enhanced mitochondrial function, increased fatty acid oxidation, and improved glucose metabolism. This mechanism mimics aspects of exercise-induced metabolic adaptations, making it valuable for studying metabolic regulation and mitochondrial biology.

Molecular Profile

- Chemical Formula: $C_{18}H_{14}N_2O_2$
- Molecular Weight: 290.32 Da
- Structure: Selective ERRα inverse agonist



Laboratory Considerations

- Store powder at room temperature in a dry environment
- For extended stability, store at -20°C
- Protect from light during storage and experimentation

Research Applications

- ERRα (Estrogen-related receptor alpha) signaling research
- Investigation of mitochondrial biogenesis regulation
- Models examining metabolic reprogramming mechanisms
- Research on cellular energy metabolism and exercise mimetics

References

1. Narkar VA, et al. AMPK and PPARδ agonists are exercise mimetics. Cell. 2008;134(3):405-415.
2. Rangwala SM, et al. Estrogen-related receptor gamma is a key regulator of muscle mitochondrial activity and oxidative capacity. J Biol Chem. 2010;285(29):22619-22629.
3. Busch BB, et al. Identification of a selective inverse agonist for the orphan nuclear receptor estrogen-related receptor alpha. J Med Chem. 2004;47(23):5593-5596.
4. Patch RJ, et al. Identification of diaryl ether-based ligands for estrogen-related receptor α as potential antidiabetic agents. J Med Chem. 2011;54(3):788-808.