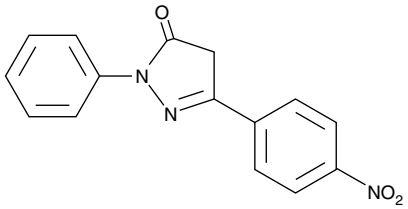
# Product Information

## CAY10550

*Item No. 10010740*

**CAS Registry No.:** 34320-83-7
**Formal Name:** 2,4-dihydro-5-(4-nitrophenyl)-2-phenyl-3H-pyrazol-3-one
**Synonym:** 3-(4-Nitrophenyl)-1-phenyl-2-pyrazolin-5-one
**MF:** $C_{15}H_{11}N_3O_3$
**FW:** 281.3
**Purity:** ≥98%
**Stability:** ≥2 years at -20°C
**Supplied as:** A crystalline solid
**UV/Vis.:** $\lambda_{max}$: 242, 337 nm




### Laboratory Procedures

For long term storage, we suggest that CAY10550 be stored as supplied at -20°C. It should be stable for at least two years.

CAY10550 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAY10550 in an organic solvent purged with an inert gas. CAY10550 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of CAY10550 in these solvents is approximately 1 mg/ml.

CAY10550 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CAY10550 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. CAY10550 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Cellular prion protein ($PrP^c$) is a cell surface glycoprotein expressed in brain, spinal cord, and several peripheral tissues that if mutated to the protease-resistant isoform $PrP^{Sc}$ (scrapie PrP, $PrP^{res}$) can result in one of several fatal neurodegenerative diseases.[1] Prion diseases, including mad cow disease (bovine spongiform encephalopathy), scrapie, and Creutzfeldt-Jakob disease develop from the accumulation of $PrP^{Sc}$, an abnormally folded β-rich conformation of $PrP^c$.[2,3] CAY10550 is a potent antiprion compound that inhibits the accumulation of $PrP^{Sc}$ with an $IC_{50}$ value of 3 nM in both ScN2a and F3 prion-infected mouse neuroblastoma cell lines.[4] This compound also demonstrates moderate radical scavenging activity as it inhibits the formation of hydroxyl radicals *in vitro* with an $IC_{50}$ value of 90 µM.[4]

### References


1. Prusiner, S.B. Shattuck lecture-neurodegenerative diseases and prions. *N. Engl. J. Med.* **344(20)**, 1516-1526 (2001).
2. Stahl, N. and Prusiner, S.B. Prions and prion proteins. *FASEB J.* **5**, 2799-2807 (1991).
3. Prusiner, S.B. Prions. *Proc. Natl. Acad. Sci. USA* **95**, 13363-13383 (1998).
4. Kimata, A., Nakagawa, H., Ohyama, R., *et al.* New series of antiprion compounds: Pyrazolone derivatives have the potent activity of inhibiting protease-resistant prion protein accumulation. *J. Med. Chem.* **50**, 5053-5056 (2007).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