

Tyrphostin AG-490



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Background

Tyrphostin AG-490 is a membrane soluble protein tyrosine kinase inhibitor that primarily blocks Jak2 (IC₅₀ = 10 μM) and Jak3 (IC₅₀ = 20 μM) kinases (1,2). Research studies demonstrate that tyrphostin AG-490 inhibits proliferation and expansion of T cells (3). Unlike many other kinase inhibitors, tyrphostin AG-490 does not block a number of lymphocytic tyrosine kinases, such as Lck, Lyn, Btk, Syk, Jak1, Tyk2, or Src kinase (1,4). Additional studies indicate that tyrphostin AG-490 also selectively inhibits the EGFR (IC₅₀ = 2 μM) and ErbB2 (IC₅₀ = 13.5 μM) receptor tyrosine kinases (5).

Molecular Formula

C₁₇H₁₄N₂O₃

Molecular Weight

294.3 g/mol

Purity

>99%

CAS

134036-52-5

Solubility

Soluble in DMSO at 200mg/ml and EtOH at 16mg/ml.

Storage

Store lyophilized or in solution at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use

Tyrphostin AG-490 is supplied as a lyophilized powder. For a 50 mM stock, reconstitute the 10 mg in 679.58 μl DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 10-100 μM for 1-24 hr.

Background References

1. Meydan, N. et al. (1996) *Nature* 379, 645-8.
2. Murakami, K. and Takagi, T. (1999) *Pac Symp Biocomput*, 171-81.
3. Wang, L.H. et al. (1999) *J Immunol* 162, 3897-904.
4. De Vos, J. et al. (2000) *Br J Haematol* 109, 823-8.
5. Gazit, A. et al. (1991) *J Med Chem* 34, 1896-907.

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