
Product Data Sheet

Product Name: RETRA hydrochloride

Cat. No.: GC10589

Chemical Properties

Cas. No. 1036069-26-7

Chemical Name 2-(4,5-dihydro-1,3-thiazol-2-ylsulfanyl)-1-(3,4-dihydroxyphenyl)ethanone;hydrochloride

SMILES C1CSC(=N1)SCC(=O)C2=CC(=C(C=C2)O)O.Cl

Formula $C_{11}N_{11}NO_3S_2$ M.Wt 305.8

Solubility <30.58mg/ml in DMSO Storage Desiccate at RT

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

Background

IC50: Inhibit tumor cells growth with an IC50 of about 4 M.

Being defective for the tumor-suppressor function, mutant p53, a major contributor to malignancy, exerts oncogenic activity also by blocking another tumor-suppressing protein - p73. RETRA hydrochloride is considered to restore mutant p53 activity and therefore to inhibit growth of carcinoma cells. This small molecular could also transcriptionally up-regulates the expression of p53-responsive gene and induces the activation of caspases 3 and 7. RETRA's anticancer activity is restricted to tumor cells bearing mutant p53. [1]

In vitro: Ewing's sarcoma (ES) cells with mutant p53 were explored to RETRA, it was found that this compound could substantially up-regulate the expression level of p73 and therefore increase the apoptosis of tumor cells in three mutant p53 ES cell lines. In addition, RETRA was described to activate a set of p53-regulated genes in vitro. However, for most of the p53-deficient carcinoma, osteosarcoma and leukaemia cells,

Caution: Product has not been fully validated for medical applications. For research use only.

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RETRA had no significant effect. [1, 2]

In vivo: Effect of RETRA hydrochloride was studied in vivo using mouse xenografts model. It was noticed that mutant p53-bearing tumor cells were specifically suppressed with a significantly increase in the p73 level and a release of p73 from the blocking complex with mutant p53. [1]

Clinical trial: So far, no clinical study has been conducted.

References:

[1] Kravchenko JE, Ilyinskaya GV, Komarov PG, Agapova LS, Kochetkov DV, Strom E, Frolova EI, Kovriga I, Gudkov AV, Feinstein E, Chumakov PM. Small molecular RETRA suppresses mutant p53-bearing cancer cells through a p73-dependent salvage pathway. PNAS. 2008 Apr; 105(17): 6302-7.

[2] Sonnemann J, Grauel D, Blumel L, Hentschel J, Marx C, Blumrich A, Focke K, Becker S, Wittig S, Schinkel S, Kramer OH, Beck JF. RETRA exerts anticancer activity in Ewing's sarcoma cells independent of their TP53 status. EUR J CANCER. 2015 Feb; 51:841-851.

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