Adaptavir (DAPTA)

Catalog No.C13453 Batch:C1345303

Product Datasheet

Technical Data

Formula	$C_{35}H_{56}N_{10}O_{15}$		
Molecular Weight	856.88	**CAS No.**	106362-34-9
Solubility (25°C)*	In vitro	Water	100 mg/mL (116.7 mM)

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Biological Activity

Description	Adaptavir (DAPTA, D-Ala-peptide T-amide, peptide T) is a water soluble potent, selective **CCR5** antagonist which potently inhibits specific CD4-dependent binding of gp120 Bal (IC50 = 0.06 nM) and CM235 (IC50 = 0.32 nM) to CCR5.
Targets	gp120 Bal-CCR5 [1] (Cell-free assay): 0.06 nM CM235-CCR5 [1] (Cell-free assay): 0.32 nM
In vitro	Adaptavir (DAPTA) is a non-toxic experimental antiviral entry inhibitor that potently inhibits specific CD4-dependent binding of gp120 Bal (IC50 = 0.06 nM) and CM235 (IC50 = 0.32 nM) to CCR5. In co-immunoprecipitation studies, this compound (1 nM) blocks formation of the gp120/sCD4 complex with CCR5. Confocal microscopic studies of direct FITC-DAPTA binding to CCR5+, but not CCR5−, cells show that CCR5 is a DAPTA receptor. It is an antagonist of CCR5-mediated chemotaxis and is most effective as an antiviral agent primarily against R5-tropic HIV-1 isolates, with reduced or absent effect for X4-tropic laboratory isolates. DAPTA does not inhibit fusion in typical assays, which use high local concentrations of virus and cells[1]. The Th2 cytokines IL-4, IL-10,and IL-13, are increased by this compound and induce a potent virostatic state in infected macrophages in vitro, as well as inhibit production of the proinflammatory cytokines IL-1 and TNFα, which upregulate virus expression. Thus the elevation of Th2 cytokines by DAPTA treatment would favor less macrophage viral replication[2].
In vivo	Following DAPTA treatment, the levels of inflammatory cytokines IL-1, IL-6, and TNFα decrease in plasma[2]. This compound also prevents the neuronal cell death associated with gpl20 and prevents gpl20-associated neural deficits in vivo[3].

Protocol (from reference)

Cell Assay:[4]

- **Cell lines**
  Monocyte-derived macrophages
- **Concentrations**
  10^{-12} to 10^{-7} M
- **Incubation Time**
  7 days and 14 days
- **Method**
  MDM (Monocyte-derived macrophages) at a concentration of 1×10^{6} cells per ml in 24-well plates are cultured for 7-14 days in growth medium (RPMI, 5% human AB serum). At the beginning of the experiment the cells are washed with serum free RPMI and are treated with Adaptavir (DAPTA) at the indicated concentrations, or vehicle (medium), for 1-2 h at 37 °C, 5% CO2. Cultures are washed two times to remove unabsorbed virus and cultured in growth medium containing this compound at indicated concentrations. Supernatants from day 7 or 14 cultured MDM's are sampled. Cultures are re-fed with it and 50% fresh medium after the day 7 sample. The p24 antigen determination is made using commercial kits.

Animal Study:[3]

- **Animal Models**
  Sprague-Dawley rats
- **Dosages**
  5 μg/100 μl
- **Administration**
  s.c.

References

https://pubmed.ncbi.nlm.nih.gov/16002156/ https://pubmed.ncbi.nlm.nih.gov/15043212/ https://pubmed.ncbi.nlm.nih.gov/8461978/

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RETURN POLICY

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SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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