Product Name: Carbamazepine
Catalog No.: 4098
Batch No.: 2
CAS Number: 298-46-4
EC Number: 206-062-7
IUPAC Name: 5H-Dibenz[b,f]azepine-5-carboxamide

1. PHYSICAL AND CHEMICAL PROPERTIES

   Batch Molecular Formula: \( C_{15}H_{12}N_2O \).
   Batch Molecular Weight: 236.27
   Physical Appearance: White solid
   Solubility: DMSO to 100 mM
              ethanol to 25 mM
   Storage: Store at +4°C
   Batch Molecular Structure:

2. ANALYTICAL DATA

   HPLC: Shows 99.7% purity
   \(^1\)H NMR: Consistent with structure
   Mass Spectrum: Consistent with structure
   Microanalysis:
                  Carbon Hydrogen Nitrogen
                  Theoretical  76.25  5.12  11.86
                  Found       76.5   5.12   11.68

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bio-techne.com info@bio-techne.com
techsupport@bio-techne.com
North America Tel: (800) 343 7475
China info.cn@bio-techne.com Tel: +86 (21) 52380373
Europe Middle East Africa Tel: +44 (0)1235 529449
Rest of World www.tocris.com/distributors Tel:+1 612 379 2956
**Product Name:** Carbamazepine  
**CAS Number:** 298-46-4  
**IUPAC Name:** 5H-Dibenzo[b,f]azepine-5-carboxamide

**Description:**  
Inhibitor of neuronal voltage-gated Na⁺ channels. Exhibits anticonvulsant activity. Potentiates GABA-induced Cl⁻ currents in HEK 293 cells expressing the GABAA receptor α1β2γ2 subtype combination. Can induce autophagy by inhibiting inositol synthesis. Also delays disease onset and prolongs survival in a mouse amyotrophic lateral sclerosis (ALS) model, as well as reducing motor neuron loss and altered muscle morphology.

**Physical and Chemical Properties:**  
**Batch Molecular Formula:** C₁₈H₁₂N₂O.  
**Batch Molecular Weight:** 236.27  
**Physical Appearance:** White solid  
**Minimum Purity:** >99%  
**Batch Molecular Structure:**

![Molecular Structure](image)

**Storage:** Store at +4°C

**Solubility & Usage Info:**  
DMSO to 100 mM  
ethanol to 25 mM

**Stability and Solubility Advice:**  
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**


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