O6-Benzylguanine is an efficient irreversible inactivator of the DNA repair protein O6-alkylguanine-DNA alkyltransferase (AGT, also known as methylguanine DNA methyltransferase, or MGMT). AGT directly removes alkyl groups located on the O6-position of guanine from DNA, thereby restoring DNA integrity. O6-Benzylguanine is an antineoplastic agent that can be used to investigate the role of AGT in carcinogenesis and mutagenesis (Pegg 2011; Dolan et al.).

Physical Appearance: A crystalline solid
Storage: Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant. For product expiry date, please contact techsupport@stemcell.com.
Solubility:
- DMSO ≤ 120 mM
- Absolute ethanol ≤ 20 mM
For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 4.15 mL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Published Applications

CANCER RESEARCH
- Enhances the activity of alkylating agents (nitrosourea, temozolomide, and cyclophosphamide) in malignant glioma xenografts growing in athymic nude mice (Pegg 1990).
- Sensitizes CD34+ hematopoietic progenitors and a breast cancer cell line to bis-chloroethyl nitrosourea (BCNU; Gerson et al.).

References


Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, please visit our website at www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.

This product is hazardous. Please refer to the Safety Data Sheet (SDS).