

Store at
-20C
#14776

Dexamethasone

5 mg

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Background

Dexamethasone is a synthetic glucocorticoid that binds to the human glucocorticoid receptor (GR). Treatment of cells with dexamethasone leads to nuclear translocation and activation of GR. This elicits anti-inflammatory, cellular proliferation, and metabolic responses via GR-mediated transcriptional activation or repression of target genes (1-4). Research studies show that dexamethasone inhibits dendritic cell differentiation and maturation (5). The inhibition of nitric oxide synthase by dexamethasone has also been observed (6).

Molecular Formula

C₂₂H₂₉FO₅

Molecular Weight

392.5 g/mol

Purity

>98%

CAS

50-02-2

Solubility

Soluble in DMSO at 40mg/ml.

Storage

Store lyophilized or in solution at -20°C, desiccated. Protect from light. 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

Dexamethasone is supplied as a lyophilized powder. For a 10 mM stock, reconstitute the 5 mg in 1.27 ml DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 10-1,000 nM for 1-24 hr.

Background References

1. Wang, Z. et al. (2002) *J Biol Chem* 277, 26573-80.
2. Matthews, L. et al. (2009) *Endocrinology* 150, 75-86.
3. Cole, T.J. (2006) *Biotechnol Annu Rev* 12, 269-300.
4. Beck, I.M. et al. (2009) *Endocr Rev* 30, 830-82.
5. Matasić, R. et al. (1999) *J Leukoc Biol* 66, 909-14.
6. Moncada, S. and Palmer, R.M. (1991) *Trends Pharmacol Sci* 12, 130-1.

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