

#14776 Store at -20°C

# Dexamethasone

5 mg

**Cell Signaling**  
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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

C<sub>22</sub>H<sub>29</sub>FO<sub>5</sub>

## Molecular Weight

392.5 g/mol

## Purity

&gt;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.

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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