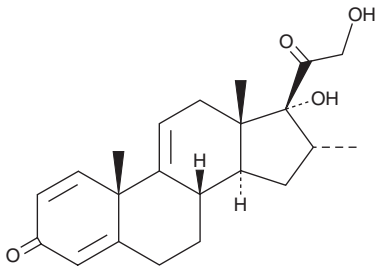
PRODUCT INFORMATION

Vamorolone

Item No. 46204

CAS Registry No.:	13209-41-1
Formal Name:	17,21-dihydroxy-16-methyl-pregna-1,4,9(11)-triene-3,20-dione
Synonym:	VBP15
MF:	$C_{22}H_{28}O_4$
FW:	356.5
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Vamorolone is supplied as a solid. A stock solution may be made by dissolving the vamorolone in the solvent of choice, which should be purged with an inert gas. Vamorolone is sparingly soluble (1-10 mg/ml) in ethanol and DMSO.

Description

Vamorolone is a dissociative steroidal glucocorticoid receptor ligand.[1] It induces transrepression of NF-κB in C2C12 skeletal muscle cells (EC_{50} = 65.9 nM) and nuclear translocation of the glucocorticoid receptor. However, unlike prednisone, it does not induce transactivation of the glucocorticoid receptor, indicating dissociation between the anti-inflammatory and gene transcriptional activities of the glucocorticoid receptor. Vamorolone selectively binds to the glucocorticoid receptor over the mineralocorticoid, androgen, and estrogen receptors but does act as a mineralocorticoid receptor antagonist, inhibiting aldosterone-induced transactivation in a reporter assay.[2,3] It decreases NF-κB target gene expression in LPS-stimulated RAW 264.7 macrophages and TNF-stimulated primary mouse cardiomyocytes.[3] Vamorolone decreases disease severity in the dystrophin-deficient *mdx* mouse model of Duchenne muscular dystrophy (DMD) without immunosuppressive side effects.[2] It also protects against aldosterone-exacerbated hypertension and cardiomyopathy in the *mdx* DMD model.[3] Additionally, vamorolone decreases disease severity in a mouse model of polyarthritis.[4] Formulations containing vamorolone have been used in the treatment of DMD.

References

1. Reeves, E.K.M., Hoffman, E.P., Nagaraju, K., *et al.* VBP15: Preclinical characterization of a novel anti-inflammatory delta 9,11 steroid. *Bioorg. Med. Chem.* **21(8),** 2241-2249 (2013).
2. Heier, C.R., Damsker, J.M., Yu, Q., *et al.* VBP15, a novel anti-inflammatory and membrane-stabilizer, improves muscular dystrophy without side effects. *EMBO Mol. Med.* **5(10),** 1569-1585 (2013).
3. Heier, C.R., Yu, Q., Fiorillo, A.A., *et al.* Vamorolone targets dual nuclear receptors to treat inflammation and dystrophic cardiomyopathy. *Life Sci. Alliance* **2(1),** e201800186 (2019).
4. Crastin, A., Shanker, A., Sagmeister, M.S., *et al.* Vamorolone: A novel metabolism resistant steroid that suppresses joint destruction in chronic polyarthritis with reduced systemic side effects. *Rheumatology (Oxford)* **64(7),** 4371-4381 (2025).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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