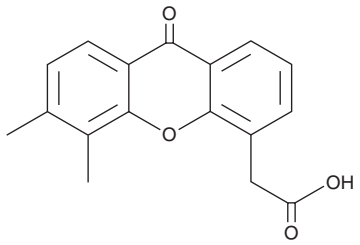
PRODUCT INFORMATION

DMXAA

Item No. 14617

CAS Registry No.: 117570-53-3
Formal Name: 5,6-dimethyl-9-oxo-9H-xanthene-4-acetic acid
Synonyms: ASA 404, 5,6-Dimethylxanthenone-4-acetic Acid, NSC 640488, Vadimezan
MF: $C_{17}H_{14}O_4$
FW: 282.3
Purity: ≥98%
Supplied as: A crystalline 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

DMXAA is supplied as a crystalline solid. A stock solution may be made by dissolving the DMXAA in the solvent of choice, which should be purged with an inert gas. DMXAA is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of DMXAA in these solvents is approximately 1 and 14 mg/ml, respectively.

DMXAA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DMXAA should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DMXAA has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DMXAA is a xanthene which acts as a tumor vascular disrupting agent, inducing apoptosis in tumor vascular endothelium resulting in necrosis at the tumor core.[1,2] It potently activates the TANK-binding kinase 1-interferon regulatory factor 3 (TBK1/IRF3) signaling pathway in leukocytes, inducing type-I-interferon (IFN) production.[3-5] Specifically, DMXAA activates the mitochondria- and endoplasmic reticulum-associated protein known as stimulator of interferon genes (STING), leading to TBK1/IRF3 signaling.[6] DMXAA signals through mouse STING but not human STING.[7] In addition, DMXAA significantly inhibits several kinases in endothelial cells, including the vascular endothelial growth factor (VEGF) receptors VEGFR1 and VEGFR2 (IC_{50} = 119 and 11 µM, respectively).[8]

References

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