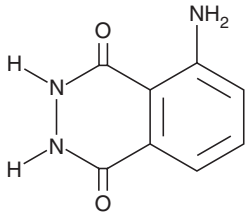
PRODUCT INFORMATION

Luminol

Item No. 16803

CAS Registry No.:	521-31-3
Formal Name:	5-amino-2,3-dihydro-1,4-phthalazinedione
Synonyms:	3-Aminophthalhydrazide, NSC 5064
MF:	$C_8H_7N_3O_2$
FW:	177.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 220, 295, 355 nm
Ex./Em. Max:	355/411 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Luminol is supplied as a crystalline solid. A stock solution may be made by dissolving the luminol in the solvent of choice. Luminol is soluble in DMSO at a concentration of approximately 2 mg/ml.

Luminol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Luminol should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Luminol has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day

Description

Luminol is a cyclic diacyl hydrazide that exhibits chemiluminescence upon oxidation. For example, HRP, combined with hydrogen peroxide as an activator, causes luminescent peroxidation of luminol.[1] This reaction can be enhanced by certain phenol derivatives, such as *p*-substituted phenols.[2] Luminol can also be oxidized, and chemiluminesce, by compounds containing iron, copper, gold, or cyanide.[3,4] The excitation/emission maxima for luminol are 355/411 nm.

References

1. Cormier, M.J. and Prichard, P.M. An investigation of the mechanism of the luminescent peroxidation of luminol by stopped flow techniques. *J. Biol. Chem.* **243(18)**, 4706-4714 (1968).
2. Thorpe, G.H.G., Kricka, L.J., Moseley, S.B., *et al.* Phenols as enhancers of the chemiluminescent horseradish peroxidase-luminol-hydrogen peroxide reaction: Application in luminescence-monitored enzyme immunoassays. *Clin. Chem.* **31(8)**, 1335-1341 (1985).
3. Fan, A., Cao, Z., Li, H., *et al.* Chemiluminescence platforms in immunoassay and DNA analyses. *Anal. Sci.* **25(5)**, 587-597 (2009).
4. Vladimirov, Y.A. and Proskurnina, E.V. Free radicals and cell chemiluminescence. *Biochemistry Mosc.* **74(13)**, 1545- 1566 (2009).

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