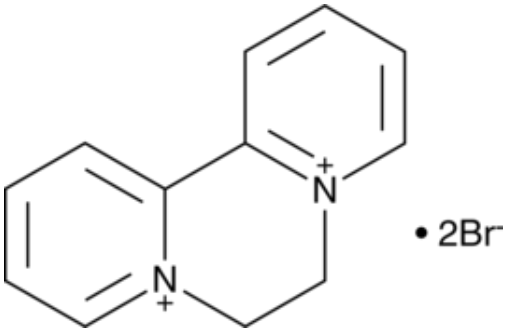
Product Data Sheet

Product Name: Diquat (bromide)
Cat. No.: GC47238

Chemical Properties

Cas. No.	85-00-7		
SMILES	[N+]12=CC=CC=C1C3=[N+](C=CC=C3)CC2.[Br-].[Br-]		
Formula	$C_{12}H_{12}N_2.2Br$	M.Wt	344
Solubility	DMSO: 1 mg/ml,Ethanol: slightly soluble	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Background

Diquat is a bipyridylium herbicide that, as a stable radical, acts as an electron acceptor in the electron transport chain and is reoxidized by molecular oxygen, producing reactive oxygen species (ROS).[1] Diquat administration has been used to induce oxidative stress *in vitro* and in animal models.[2,3,4] It increases the production of ROS and decreases the mitochondrial membrane potential in mitochondria isolated from porcine intestine leading to mitophagy when administered at a dose of 100 mg/kg.[2] Formulations containing diquat have been used in agriculture for crop desiccation and defoliation.

1.Moreland, D.E.Mechanisms of action of herbicidesAnn. Rev. Plant Physiol.31597-638(1980) 2.Cao,

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S., Wu, H., Wang, C., et al.Diquat-induced oxidative stress increases intestinal permeability, impairs mitochondrial function, and triggers mitophagy in pigletsJ. Anim. Sci.96(5)1795-1805(2018) 3.Singh, P., Hanson, P.S., and Morris, C.M.Sirtuin-2 protects neural cells from oxidative stress and is elevated in neurodegenerationParkinsons Dis.2017:2643587(2017) 4.TomÁšek, O., GabrielovÁ, B., Ka?er, P., et al.Opposing effects of oxidative challenge and carotenoids on antioxidant status and condition-dependent sexual signallingSci. Rep.6:23546(2016)

Caution: Product has not been fully validated for medical applications. For research use only.
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