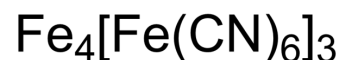


Prussian blue insoluble

Cat. No.:	HY-106594A		
CAS No.:	14038-43-8		
Molecular Formula:	C ₁₈ Fe ₇ N ₁₈		
Molecular Weight:	859.23		
Target:	Bacterial		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



BIOLOGICAL ACTIVITY

Description	<p>Prussian blue insoluble (Iron(III) ferrocyanide) is a good adsorbent to be used as antidotes for poisoning with cesium or thallium ions. Prussian blue insoluble (Iron(III) ferrocyanide) has anticancerous and antibacterial properties. Prussian blue insoluble (Iron(III) ferrocyanide) can be used as a contrast agent in photoacoustic and magnetic resonance imaging (MRI). Prussian blue insoluble can be used for contrast agents, antidotes and cancer research^{[1][2][3][4]}.</p>								
In Vitro	<p>Prussian blue insoluble (Iron(III) ferrocyanide) (0.1-3.0µg/mL; 24 hours; HUVECs) has photo-thermal effect and inhibits cell viabilities^[1]. Prussian blue insoluble (Iron(III) ferrocyanide) (0.07 mM; 0-24 hours) act as a metabolic indicator, being reduced by bacterial metabolism, producing a visible color change from blue to colorless^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Cell Line:</td> <td>HUVECs</td> </tr> <tr> <td>Concentration:</td> <td>24 hours</td> </tr> <tr> <td>Incubation Time:</td> <td>0.1, 0.2, 0.5, 1.0, 2.0 and 3.0 µg/mL</td> </tr> <tr> <td>Result:</td> <td>Decreased the cell viabilities as the time of NIR laser irradiation</td> </tr> </table>	Cell Line:	HUVECs	Concentration:	24 hours	Incubation Time:	0.1, 0.2, 0.5, 1.0, 2.0 and 3.0 µg/mL	Result:	Decreased the cell viabilities as the time of NIR laser irradiation
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In Vivo	<p>Prussian blue insoluble (3 g/day; p.o.; for 8 days; rats)(Iron(III) ferrocyanide) can be used as a therapeutic agent in radiocesium and thallium poisoning^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Animal Model:</td> <td>Rats^[3]</td> </tr> <tr> <td>Dosage:</td> <td>3 g/day</td> </tr> <tr> <td>Administration:</td> <td>Oral administration; 8 days</td> </tr> <tr> <td>Result:</td> <td>Increased excretion of cesium-134.</td> </tr> </table>	Animal Model:	Rats ^[3]	Dosage:	3 g/day	Administration:	Oral administration; 8 days	Result:	Increased excretion of cesium-134.
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REFERENCES

- [1]. Chen HJ, et, al. Facile synthesis of Prussian blue nanoparticles as pH-responsive drug carriers for combined photothermal-chemo treatment of cancer. *RCS advances*. 2016 Oct 9; 7:248-255.
- [2]. Ferrer-Vilanova A, et, al. Electrochromogenic Detection of Live Bacteria Using Soluble and Insoluble Prussian Blue. *ACS Omega*. 2021 Nov 11;6(46):30989-30997.
- [3]. Thompson DF, et, al. Soluble or insoluble prussian blue for radiocesium and thallium poisoning? *Ann Pharmacother*. 2004 Sep;38(9):1509-14.
- [4]. Busquets MA, et, al. Prussian blue nanoparticles: synthesis, surface modification, and biomedical applications. *Drug Discov Today*. 2020 Aug;25(8):1431-1443.
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Caution: Product has not been fully validated for medical applications. For research use only.

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