

Product data sheet



MedKoo Cat#: 318064 Name: Iohexol CAS: 66108-95-0 Chemical Formula: C ₁₉ H ₂₆ I ₃ N ₃ O ₉ Exact Mass: 820.8803 Molecular Weight: 821.1378	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Iohexol is a contrast agent. The osmolality of iohexol ranges from 322 mOsm/kg—approximately 1.1 times that of blood plasma—to 844 mOsm/kg, almost three times that of blood. Despite this difference, iohexol is still considered a low-osmolality contrast agent. The osmolality of older agents, such as diatrizoate, may be more than twice as high.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	10.0	12.18
DMSO	53.33	64.95
Ethanol	100.0	121.78
PBS (pH 7.2)	10.0	12.18
Water	75.0	91.34

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.22 mL	6.09 mL	12.18 mL
5 mM	0.24 mL	1.22 mL	2.44 mL
10 mM	0.12 mL	0.61 mL	1.22 mL
50 mM	0.02 mL	0.12 mL	0.24 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Yuan F, Zhang C, Sun M, Wu D, Cheng L, Pan B, Li T, Che D. MRGPRX2 mediates immediate-type pseudo-allergic reactions induced by iodine-containing iohexol. *Biomed Pharmacother.* 2021 May;137:111323. doi: 10.1016/j.biopha.2021.111323. Epub 2021 Jan 29. PMID: 33524790.
2. Danila D, Partha R, Elrod DB, Lackey M, Casscells SW, Conyers JL. Antibody-labeled liposomes for CT imaging of atherosclerotic plaques: in vitro investigation of an anti-ICAM antibody-labeled liposome containing iohexol for molecular imaging of atherosclerotic plaques via computed tomography. *Tex Heart Inst J.* 2009;36(5):393-403. PMID: 19876414; PMCID: PMC2763481.

In vivo study

1. van Gelder MK, Stevens J, Pieters TT, Vaessen KRD, Joles JA, Verhaar MC, Gerritsen KGF. Simplified Iohexol-Based Method for Measurement of Glomerular Filtration Rate in Goats and Pigs. *Biology (Basel).* 2021 May 23;10(6):461. doi: 10.3390/biology10060461. PMID: 34071069; PMCID: PMC8224736.

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2. Baklouti S, Concordet D, Borromeo V, Pocar P, Scarpa P, Cagnardi P. Population Pharmacokinetic Model of Iohexol in Dogs to Estimate Glomerular Filtration Rate and Optimize Sampling Time. *Front Pharmacol.* 2021 Apr 29;12:634404. doi: 10.3389/fphar.2021.634404. PMID: 33995036; PMCID: PMC8116701.

7. Bioactivity

Biological target:

Iohexol is a radiographic contrast agent and can be applied for myelography, computerized tomography (cisternography, ventriculography) and MicroCT imaging *in vivo*.

In vitro activity

Moreover, iohexol activated WT skin MCs and MrgprB2-HEK293 cells, which led to increased intracellular Ca^{2+} concentrations (Fig. 2E and F). Iohexol caused degranulation of WT skin MCs *in vitro*, which led to the dose-dependent release of β -hexosaminidase and histamine (Fig. 2G and H).

Reference: *Biomed Pharmacother.* 2021 May;137:111323. <https://pubmed.ncbi.nlm.nih.gov/33524790/>

In vivo activity

An intravenous bolus of iohexol was administered to goats (13 measurements in $n = 3$ goats) and pigs (23 measurements in $n = 5$ pigs) before and after induction of kidney failure, followed by frequent blood sampling up to 1440 min. Plasma clearance (CL) was estimated by a nonlinear mixed-effects model (CL_{NLME}) and by a one-compartmental pharmacokinetic disposition model using iohexol plasma concentrations during the terminal elimination phase (CL_{1CMT}). A simple method for measurement of GFR in healthy and uremic goats and pigs was successfully developed, which eliminates the need for continuous infusion of an exogenous marker, urine collection and frequent blood sampling.

Reference: *Biology (Basel).* 2021 May 23;10(6):461. <https://pubmed.ncbi.nlm.nih.gov/34071069/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.