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Iodixanol

Iodixanol is an iodine-containing non-ionic radiocontrast agent.^[1] It is sold under the trade name **Visipaque**; it is also sold as a density gradient medium under the name **OptiPrep**.^[2] Visipaque is commonly used as a contrast agent during coronary angiography. It is the only iso-osmolar contrast agent, with an osmolality of 290 mOsm/kg H₂O, the same as blood. It is sold in 2 main concentrations 270 mgI/ml and 320 mgI/ml - hence the name Visipaque 270 or 320. It is sold in single dose units and a large 500 ml plastic bottle for multi-dose dispensing.

It was originally made by Nycomed, which then merged with Amersham which finally was bought by Jeff Immelt to become GE Healthcare. The majority of Visipaque is made in Cork, Ireland, with additional plants in China and Oslo. All Iodixanol bulk powder is made in Norway by GE Healthcare.

A very similar product also manufactured by GE Healthcare is Omnipaque (Iohexol as the main drug substance).

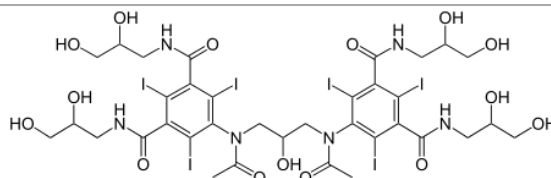
Iodixanol is also the active ingredient in a number of 'cushion' products used during the centrifugation of stallion semen. It is layered underneath the extended stallion semen allowing for a higher g force to be used with less sperm damage and better recovery rates. Post centrifugation the supernatant above and the cushion below is removed, leaving a concentrated sperm pellet in the conical tube.^[3]

References

- Spencer CM, Goa KL (December 1996). "Iodixanol. A review of its pharmacodynamic and pharmacokinetic properties and diagnostic use as an x-ray contrast medium". *Drugs*. **52** (6): 899–927. doi:10.2165/00003495-199652060-00013 (https://doi.org/10.2165%2F00003495-199652060-00013). PMID 8957160 (https://pubmed.ncbi.nlm.nih.gov/8957160).
- OptiPrep™: The ideal density gradient medium (http://www.axis-shield-density-gradient-media.com/Leaflet%20OptiPrep.pdf), Axis-Shield Density Gradient Media. Accessed on line Nov. 19, 2015.
- Waite JA, Love CC, Brinsko SP, Teague SR, Salazar JL, Mancill SS, Varner DD (September 2008). "Factors impacting equine sperm recovery rate and quality following cushioned centrifugation". *Theriogenology*. **70** (4): 704–14. doi:10.1016/j.theriogenology.2008.04.047 (https://doi.org/10.1016%2Fj.theriogenology.2008.04.047). PMID 18573520 (https://pubmed.ncbi.nlm.nih.gov/18573520).

External links

Iodixanol



Clinical data

Other names	5-[acetyl-[3-[acetyl-[3,5-bis(2,3-dihydroxypropylcarbamoyl)-2,4,6-triiodo-phenyl]amino]-2-hydroxypropyl]amino]-N,N'-bis(2,3-dihydroxypropyl)-2,4,6-triiodo-benzene-1,3-dicarboxamide
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AHFS/Drugs.com	Multum Consumer Information (https://www.drugs.com/mtm/iodixanol.html)
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ATC code	V08AB09 (WHO (https://www.whooc.no/atc_ddd_index/?code=V08AB09))
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Pharmacokinetic data

Protein binding	Negligible
Metabolism	Excreted unchanged
Elimination half-life	2.1 hours
Excretion	Renal

Identifiers

IUPAC name	5-{N-[3-(N-{3,5-bis[(2,3-dihydroxypropyl)carbamoyl]-2,4,6-triiodophenyl]acetamido)-2-hydroxypropyl]acetamido}-1-N,3-N-bis(2,3-dihydroxypropyl)-2,4,6-triiodobenzene-1,3-dicarboxamide
CAS Number	92339-11-2 (https://commonchemistry.cas.org/detail?cas_rn=92339-11-2) ✓
PubChem CID	3724 (https://pubchem.ncbi.nlm.nih.gov/compound/3724)
DrugBank	DB01249 (https://www.drugbank.ca/drugs/DB01249) ✓
ChemSpider	3593 (https://www.chemspid

	er.com/Chemical-Structure.3593.html) ✓
UNII	HW8W27HTXX (https://precision.fda.gov/uniisearch/srs/unii/HW8W27HTXX)
KEGG	D01474 (https://www.kegg.jp/entry/D01474) ✓
ChEBI	CHEBI:31705 (https://www.ebi.ac.uk/chebi/searchId.do?chebiId=CHEBI:31705) ✓
ChEMBL	ChEMBL1200507 (https://www.ebi.ac.uk/chembl/db/index.php/compound/inspect/ChEMBL1200507) ✗
CompTox Dashboard (EPA)	DTXSID2045523 (https://comptox.epa.gov/dashboard/chemical/details/DTXSID2045523)
ECHA InfoCard	100.124.306 (https://echa.europa.eu/substance-information/-/substanceinfo/100.124.306)
Chemical and physical data	
Formula	C ₃₅ H ₄₄ I ₆ N ₆ O ₁₅
Molar mass	1550.191 g·mol ⁻¹
3D model (JSmol)	Interactive image (https://chemapps.stolaf.edu/jmol/jmol.php?model=Ic1c(C(=O)NCC(O)CO)c(I)c(C(=O)NCC(O)CO)c(I)c1N(C(=O)C)CC(O)CN(C(=O)C)c2c(I)c(c(I)c(c2I)C(=O)NCC(O)CO)C(=O)NCC(O)CO)
SMILES	<chem>Ic1c(C(=O)NCC(O)CO)c(I)c(C(=O)NCC(O)CO)c(I)c1N(C(=O)C)CC(O)CN(C(=O)C)c2c(I)c(c(I)c(c2I)C(=O)NCC(O)CO)C(=O)NCC(O)CO</chem>
InChI	InChI=1S/C35H44I6N6O15/c1-13(52)46(30-26(38)20(32(59)42-3-15(54)9-48)24(36)21(27(30)39)33(60)43-4-16(55)10-49)7-19(58)8-47(14(25)31-28(40)22(34(61)44-5-17(56)11-50)25(3

7)23(29(31)41)35(62)45-6-18(57)12-51/h15-1
9,48-51,54-58H,3-12H2,1-2H3,(H,42,59)(H,43,
60)(H,44,61)(H,45,62) ✓

Key:NBQNWMBBSPBAY-UHFFFAOYSA-N ✓

✗✓ (what is this?) (verify)

- <https://web.archive.org/web/20160825063320/http://www.cosmobioussa.com/axis-shield-density-gradient-optiprep.html>
- http://www3.gehealthcare.com/en/products/categories/contrast_media/visipaque
- <https://web.archive.org/web/20110927141156/http://www.gehealthcare.com/caen/md/docs/visipaquepieng.pdf>
- *lodixanol* (<https://dailymed.nlm.nih.gov/dailymed/lookup.cfm?setid=4228>) drug label/data at [Daily Med](#) from U.S. National Library of Medicine, [National Institutes of Health](#).

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