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**Technical specifications for Bismuth Nanocolloid with Organic Dye (BIR)**

**Product Name:** Bismuth nanocolloid with organic dye (BIR)

**Catalog #:** BIR150

**Description:**

Bismuth nanocolloid or BIR refers to organic bismuth encapsulated in phospholipid core for use as a contrast agent. The Ocean Nano Tech’s bismuth nanocolloid (BIR) can be used as a contrast agent for imaging modalities like Spectral computed tomography (CT), CT and X-ray. The BIR offers higher content of bismuth per nanocolloid due to our unique preparation method. This nanocolloid is compatible with various buffers and cell culture media given on the Table below. The zeta potential of plain BIR is around -20- -30 mV indicating good colloidal stability.

BIR is bismuth nanocolloid with fluorescent dyes for multi-modality imaging. The particle size is about 150 nm.

The product is packed in 2 mL serum vials. The headspace in the vials is replaced with argon to avoid oxidation of bismuth.

The BNC line of products are for RESEARCH USE only and NOT intended for humans use.

<b>Catalog number</b>	BIR
<b>Product name</b>	Bismuth nanocolloid with organic dye
<b>Solvent</b>	Mili Q Water
<b>Storage</b>	4°C; Do not freeze.
<b>pH stability</b>	5-10
<b>Buffer stability</b>	Stable in Borate, Tris, HEPES, PBS, etc.
<b>Shelf life</b>	3 months
<b>Culture Media</b>	RPMI, MEM, TMED
<b>Bismuth Concentration</b>	1 mg/mL (Bi)
<b>Storage</b>	Upon receipt store at 4°C. Product shipped at ambient temperature.
<b>Sterility</b>	Sterility is lost upon opening the vial. Utilize the contents of the vial in single use. Maintain sterility by using sterile disposable needle with sterile disposable syringe.

<b>Functional group</b>	No linkable group. With Rhodamine B
<b>Particle Size</b>	~150-200nm
<b>Zeta potential</b>	-20- -30 mV

### **Related Ocean Nano Tech Products**

Visit our web site for additional information related to this product including the following items:

BIC (bismuth nanocolloid with carboxyl groups), BIT (bismuth nanocolloid with NTA-Ni groups), BIB (bismuth nanocolloid with biotin groups), BIN (bismuth nanocolloid with no functional group).

**For R&D only. Not intended for food, drug, household, agricultural, or cosmetic use.**

**Ocean NanoTech, LLC shall not be held liable for any damage resulting from handling or contact with the above product.**

### **WARRANTY**

The Ocean Nano Tech nanocolloid products ("Product") are warranted to operate or perform in conformance with published Product specifications at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts ("Documentation") and to be free from defects in material and workmanship. Unless otherwise expressly authorized in writing, Products are supplied for research use only. No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the original purchaser of the Product ("Buyer").

No other warranties, express or implied, are granted, including without limitation, implied warranties of merchantability, fitness for any particular purpose, or non infringement. Buyer's exclusive remedy for non-conforming Products during the warranty period is limited to replacement of or refund for the non-conforming Product(s).

There is no obligation to replace Products as the result of (i) accident, disaster or event of force majeure, (ii) misuse, fault or negligence of or by Buyer, (iii) use of the Products in a manner for which they were not designed, or (iv) improper storage and handling of the Products.

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