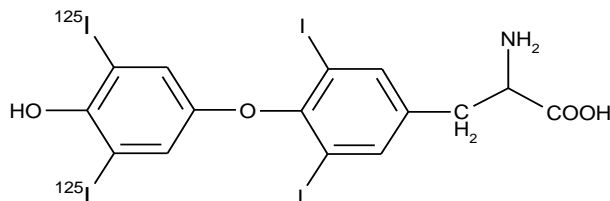


## L-<sup>125</sup>I]-Thyroxine

### [<sup>125</sup>I]-T4

Product Number: NEX111X



#### LOT SPECIFIC INFORMATION:

**CALCULATED AS OF:** 19-Feb-2024

**LOT NUMBER:** AV32240

**SPECIFIC ACTIVITY:**  
 163 TBq/mmol  
 4400 Ci/mmol  
 210 MBq/μg  
 5677 μCi/μg

**CONCENTRATION:**  
 11.8 MBq/ml  
 318 μCi/ml

#### Package Size Information

Package Size as of 22-Mar-2024	Volume
3.70 MBq 100 μCi	0.50 ml
9.25 MBq 250 μCi	1.25 ml
18.5 MBq 500 μCi	2.50 ml

**RADIOCHEMICAL PURITY:** ≥ 95%

**MOLECULAR WEIGHT:** 775

**PACKAGING:** L-<sup>125</sup>I]-Thyroxine is in a solution containing 1-propanol:water, 1:1. It is shipped ambient.

**SPECIAL INFORMATION:** This compound is light sensitive. Exposure to light may hasten decomposition. L-<sup>125</sup>I]-Thyroxine is supplied in a red NENSURE™ vial which contains a U.V. inhibitor.

**STABILITY AND STORAGE:** L-<sup>125</sup>I]-Thyroxine should be stored at 4°C or lower in the dark. Under these conditions, radiochemical impurities increase at a rate of approximately 6% per week. The major impurity generated on standing is <sup>125</sup>I, and the minor impurity is organic bound <sup>125</sup>I. NOTE: Any change in storage conditions, exposure to light, or heating may hasten decomposition.

**SPECIFIC ACTIVITY:** The initial specific activity of L-<sup>125</sup>I]-Thyroxine is 4400 Ci/mmol, (163 TBq/mmol), 5677 μCi/μg (210 MBq/μg). Preparative HPLC is used to separate unlabeled 3,5-diiodo-1-thyronine from L-<sup>125</sup>I]-Thyroxine. Upon decay, L-<sup>125</sup>I]-Thyroxine undergoes decay catastrophe and the specific activity remains constant with time. However, it is not known what molecular fragments are generated from the decay event or what functional activity these fragments may have in different assays. References on <sup>125</sup>I decay and decay catastrophe of <sup>125</sup>I labeled compounds are available.<sup>1-5</sup>

**RADIOCHEMICAL PURITY:** Initially greater than 95% radiochemically pure as determined by HPLC.

**PREPARATIVE PROCEDURE:** L-3,5-Diiodothyronine is radioiodinated with no carrier added <sup>125</sup>I using a modification of the Hunter and Greenwood method<sup>1</sup> and is purified by reversed phase HPLC.

**AVAILABILITY:** L-<sup>125</sup>I]-Thyroxine is routinely available from stock and is prepared fresh and packaged for shipment on the third Monday of each month. Please inquire for larger package sizes.

**HAZARD WARNING:** This product contains a chemical(s) known to the state of California to cause cancer. This product also contains a component which is harmful by contact, ingestion or inhalation. It is irritating to the eyes, skin and respiratory tract. It is toxic and flammable. Target organs are the eyes, central nervous system, kidneys and the liver.

**RADIATION UNSHIELDED:** 280mR/hr/mCi at vial surface.

**REFERENCES:**

1. Hunter, W.M., and F.C. Greenwood, *Nature* 194, 495 (1962).

**IODINE-125 DECAY CHART HALF LIFE=60 days**

**Radiations:** Gamma 35.5 keV (7%) , X-ray K alpha 27 KeV (112%), K beta 31 keV (24%)

DAYS	0	2	4	6	8	10	12	14	16	18
0	1.000	.977	.955	.933	.912	.891	.871	.851	.831	.812
20	.794	.776	.758	.741	.724	.707	.691	.675	.660	.645
40	.630	.616	.602	.588	.574	.561	.548	.536	.524	.512
60	.500	.489	.477	.467	.456	.445	.435	.425	.416	.406
80	.397	.388	.379	.370	.362	.354	.345	.338	.330	.322
100	.315	.308	.301	.294	.287	.281	.274	.268	.262	.256
120	.250	.244	.239	.233	.228	.223	.218	.213	.208	.203

To obtain the correct radioactive concentration or amount for a date before the calibration date: divide by the decay factor corresponding to the number of days before the calibration date. To obtain the correct radioactive concentration or amount for a date after the calibration date: multiply by the decay factor corresponding to the number of days after the calibration date.

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