125 Research Reagents



Research use only. Not for use in diagnostic procedures

[125|]-ORNITHINE VASOTOCIN ANALOG

Product Number: NEX254

Vasotocin, $d(CH_2)_5[Tyr(Me)^2, Thr^4, Orn^8, [^{125}l]Tyr^9-NH_2]$

LOT SPECIFIC INFORMATION

CALCULATED AS OF: 8-Jul-2024

LOT NUMBER: EP91340

SPECIFIC ACTIVITY: 81.4 TBq/mmol

2200 Ci/mmol 63.7 MBq/µg 1723 µCi/µg Package Size Information

Package Size
as of
13-Sep-2024
370 kBq
10 μCi
1.85 MBq
50 μCi

RADIOCHEMICAL PURITY: ≥ 95% MOLECULAR WEIGHT: ~1277

PACKAGING: [125]-OVTA is lyophilized from a solution containing 0.04M sodium phosphate, 1M glycine, 0.2M NaCl, 0.25% BSA, 500 KIU/ml Trasylol® at pH 7.2. It is shipped ambient.

STABILITY AND STORAGE: The lyophilized [125 I]-OVTA should be stored at 4°C or lower. Following reconstitution with distilled water to a concentration of approximately 50 μ Ci/ml on calibration date, aliquot and store at -20°C or lower. Under these conditions the product is stable and usable for at least ten weeks after fresh lot date.

SPECIFIC ACTIVITY: The initial specific activity of [¹²⁵I]-OVTA is 2200 Ci/mmol (81 TBq/mmol), 1723 μCi/μg (63.7 MBq/μg). Preparative HPLC is used to separate unlabeled ornithine vasotocin analog from [¹²⁵I]-OVTA. Upon decay, [¹²⁵I]-OVTA undergoes decay catastrophe and the specific activity remains constant with time. However, it is not known what molecular or peptide fragments are generated from the decay event or what functional activity these fragments may have in different assays. References on ¹²⁵I decay and decay catastrophe of ¹²⁵I labeled compounds are available.¹⁻⁵

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

PREPARATIVE PROCEDURE: OVTA is radioiodinated with no carrier added ¹²⁵I using a modification of the Hunter and Greenwood method⁶ and purified by reversed phase HPLC.

APPLICATIONS: [125]-OVTA is a selective oxytocin antagonist which exhibits very low cross reactivity with arginine vasopressin receptors. This, together with its high specific activity, makes it the radioligand of choice for the study of oxytocin receptors.

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 and inhalation. It is irritating to the eyes, skin and respiratory tract and is toxic.

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

REFERENCES:

- Doyle, V.M., Buhler, F.R., Burgisser, E., Eur. J. Pharm. 99 353 (1984).
- Schmidt, J., J. Biol. Chem. <u>259</u> 1660 (1984).
- Loring, R.H., Jones, S.W., Matthews-Bellinger, J., Salpeter, M.M., J. Biol. Chem. 257 1418 (1982).
- Berridge, M.S., Jiang, V.W., Welch, M.J., Rad. Res. 82 467 (1980).
- Charlton, D.E., Rad. Res. <u>107</u> 163 (1986).
- 6. Hunter, W.M. and Greenwood, F.C., Nature 194 495 (1962).
- 7. Elands, J., Barberis, C., Jard, S., Tribollet, E., Jean-Jacques, D., Bankowski, K., Manning, M. and Sawyer, W.H., Eur.

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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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Revvity, Inc. 940 Winter Street Waltham, MA 02451 USA

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