[^{125}I]-OREXIN A

Product Number: NEX367

LOT SPECIFIC INFORMATION

CALCULATED AS OF: 12-Aug-2024

LOT NUMBER: JB91340

SPECIFIC ACTIVITY:
81.4 TBq/mmol
2200 Ci/mmol
23 MBq/µg
618 µCi/µg

CONCENTRATION:
3.17 MBq/ml
85.6 µCi/ml

RADIOCHEMICAL PURITY: ≥ 95%

MOLECULAR WEIGHT: ~3562

Package Size Information

Package Size as of 13-Sep-2024	Volume
370 kBq 10 µCi	0.200 mL
1.85 MBq 50 µCi	1.00 mL

PACKAGING: [^{125}I]-Orexin A is in a solution containing 20% acetonitrile in 0.1M Tris HCl pH 7.5 and 0.1% BSA. It is shipped on dry ice in Sigma-Cote™ treated vials.

SPECIAL INFORMATION: [^{125}I]-Orexin A sticks to glass and some plastics. We recommend using silanized or Sigma-Cote™ treated plastics or glassware to minimize this problem.

STABILITY AND STORAGE: [^{125}I]-Orexin A should be stored at -20°C or lower. Under these conditions, the product is stable and usable for at least eight weeks after fresh lot date.

SPECIFIC ACTIVITY: The initial specific activity of [^{125}I]-Orexin A is 2200 Ci/mmol, (81 TBq/mmol), 618 µCi/µg (23 MBq/µg). Preparative HPLC is used to separate unlabeled Orexin from [^{125}I]-Orexin A. Upon decay, [^{125}I]-Orexin A 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 ^{125}I decay and decay catastrophe of ^{125}I labeled compounds are available.[1-5]

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

PREPARATIVE PROCEDURE: Orexin A is radioiodinated using no carrier added ^{125}I using a modification of the Hunter and Greenwood method[6] and purified by reversed phase HPLC. This method predominantly labels tyrosine residues.

AVAILABILITY: [^{125}I]-Orexin A is routinely available from stock and is prepared fresh and packaged for shipment on the second Monday of each month. Please inquire for larger package sizes.

APPLICATIONS: The Orexin A is a peptide that stimulates feeding. Drugs which act as antagonists at orexin receptors may be useful anti-obesity drugs.[7] [^{125}I]-Orexin A binds to both type 1 and type 2 receptors with high affinity. Pharmaceutical companies will be interested in high throughput screening using [^{125}I]-Orexin A.

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

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

REFERENCES:

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6. Hunter, W.M. and Greenwood, F.C., *Nature* 194 495 (1962).
7. Sakurai, T., Amemiya, A., Ishii, M., Matsuzaki, I., Chemelli, R., Tanaka, H., Williams, S.C., Richardson, J.A., Kozlowski, G.P., Wilson, S., Arch, J.R.S., Buckingham, R.E., Haynes, A.C., Carr, S.A., Annan, R.S., McNulty, D.E., Liu, W-S., Terrett, J.A., Elshourbagy, N.A., Bergsma, D.J., Yanagissawa, M., *Cell* 92 573-585 (1998).

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	0.977	0.955	0.933	0.912	0.891	0.871	0.851	0.831	0.812
20	0.794	0.776	0.758	0.741	0.724	0.707	0.691	0.675	0.66	0.645
40	0.63	0.616	0.602	0.588	0.574	0.561	0.548	0.536	0.524	0.512
60	0.5	0.489	0.477	0.467	0.456	0.445	0.435	0.425	0.416	0.406
80	0.397	0.388	0.379	0.37	0.362	0.354	0.345	0.338	0.33	0.322
100	0.315	0.308	0.301	0.294	0.287	0.281	0.274	0.268	0.262	0.256
120	0.25	0.244	0.239	0.233	0.228	0.223	0.218	0.213	0.208	0.203

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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