[^{125}I]TyrA^{14} Insulin (porcine)
[125I]-Receptor Grade Insulin

Product Number: NEX196

LOT SPECIFIC INFORMATION:

CALCULATED AS OF: 23-Dec-2024

LOT NUMBER: CZ13150

SPECIFIC ACTIVITY:
81.4 TBq/mmol
2200.0 Ci/mmol
13.7 MBq/µg
371 µCi/µg

CONCENTRATION:
3.2 MBq/ml
86.2 µCi/ml

RADIOCHEMICAL PURITY: ≥ 95%

MOLECULAR WEIGHT: ~5,927

Package Size Information

Package Size as of 31-Jan-2025	Volume
370 kBq 10 µCi	0.20 ml
1.85 MBq 50 µCi	1.00 ml

PACKAGING: [^{125}I]Tyr^{A14} Insulin is in a solution containing 0.05M sodium phosphate, 1M glycine, 0.2M NaCl, 0.25% BSA, 500 KIU/ml Trasylol® at pH 7.2. It is shipped on dry ice.

SPECIAL INFORMATION: This compound is light sensitive. Exposure to light may hasten decomposition. [^{125}I]Tyr^{A14} Insulin is supplied in a red NENSURE™ vial which contains a U.V. inhibitor.

STABILITY AND STORAGE: [^{125}I]Tyr^{A14} Insulin should be stored at -20°C or lower in the dark. Under these conditions the product is stable and usable for at least four weeks after fresh lot date.

SPECIFIC ACTIVITY: The initial specific activity of [^{125}I]Tyr^{A14} Insulin is 2200 Ci/mmol (81 TBq/mmol), 371 µCi/µg
(13.7 MBq/µg). Preparative HPLC is used to separate unlabeled insulin from [^{125}I]-Tyr^{A14}Insulin. Upon decay, [^{125}I]Tyr^{A14}Insulin 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 ^{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.

POSITION OF LABELING: Limited protease digestion of the product followed by HPLC identification of the fragments[6] indicates that it is the Tyr^{A14} which is iodinated.

PREPARATIVE PROCEDURE: Porcine insulin is radioiodinated with no carrier added ^{125}I using a modification of the Hunter and Greenwood method[7], and is purified by reversed phase HPLC. Only the Tyr^{A14} iodinated isomer is collected as product.

APPLICATIONS: [^{125}I]Tyr^{A14} Insulin has been proven to be active in a receptor binding assay using cultured human fibroblasts as described.[8] It may also be used in radioimmunoassay.

AVAILABILITY: [^{125}I]Tyr^{A14} Insulin is routinely available from stock and prepared fresh and packaged for shipment on the fourth 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 organ is the central nervous system.

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

REFERENCES:

1. Doyle, V.M., Buhler, F.R., Burgisser, E., *Eur. J. Pharm*. 99 353 (1984).
2. Schmidt, J., *J. Biol. Chem. 259* 1660 (1984)
3. Loring, R.H., Jones, S.W., Matthews-Bellinger, J., Salpeter, M.M., *J. Biol. Chem*. *257* 1418 (1982).
4. Berridge, M.S., Jiang, V.W., Welch, M.J., *Radiation Research* 82 467 (1980).
5. Charlton, D.E., *Radiation Research,* 107 163 (1986).
6. Frank, B., Beckage, M.J. and Willey, K.*J., Chrom*. 266, 239-248 (1983).
7. Hunter, W.M. and Greenwood, F.C., *Nature* 194, 495 (1962).
8. Podskalny, J. and Kahn, R., *J. Clin. Endocrinol. and Metab*. 54, 261-268 (1982)

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.

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

(800) 762-4000
www.revvity.com