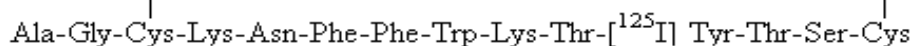


[¹²⁵I] TYR¹¹-SOMATOSTATIN 14

Product Number: NEX389

**LOT SPECIFIC INFORMATION**

CALCULATED AS OF: 18-Dec-2023

LOT NUMBER: JX11940

SPECIFIC ACTIVITY: 81.4 TBq/mmol
 2200 Ci/mmol
 45.8 MBq/μg
 1237 μCi/μg

Package Size Information

Package Size as of 19-Jan-2024
370 kBq 10 μCi
1.85 MBq 50 μCi

RADIOCHEMICAL PURITY: ≥ 95%

MOLECULAR WEIGHT: ~1778

PACKAGING: [¹²⁵I]Tyr¹¹-Somatostatin 14 is lyophilized from a solution containing 0.04M sodium phosphate, 1M glycine, 0.2M sodium chloride, 0.25% BSA, 500 KIU/ml Trasylo[®] at pH 7.2. It is shipped ambient.

STABILITY AND STORAGE: The lyophilized [¹²⁵I]Tyr¹¹-Somatostatin 14 should be stored at 4°C or lower. Following reconstitution with distilled water to a concentration of approximately 100 μCi/ml on calibration date, aliquot and store at -20°C or lower. Under these conditions the product is stable and usable for at least six weeks after fresh lot date.

SPECIFIC ACTIVITY: The initial specific activity of [¹²⁵I]Tyr¹¹-Somatostatin 14 is 2200 Ci/mmol (81 TBq/mmol), 1237 μCi/μg (45.8 MBq/μg). Upon decay, [¹²⁵I]Tyr¹¹-Somatostatin 14 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: Somatostatin is radioiodinated with no carrier added ¹²⁵I using a modification of the Hunter and Greenwood method⁶ and purified by reversed phase HPLC.

AVAILABILITY: [¹²⁵I]Tyr¹¹-Somatostatin 14 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.

APPLICATIONS: Somatostatin is a cyclic neuropeptide found in the brain, pancreas and hypothalamus and inhibits the release of growth hormone. [¹²⁵I] Tyr¹¹ somatostatin binds to the receptors on RINm5F insulinoma cells with high affinity and inhibits the secretion of insulin from pancreatic β cells.⁷ [¹²⁵I] Tyr¹¹ somatostatin is a better radioanalogue than [¹²⁵I] Tyr¹ somatostatin for binding studies with intact cells because of its higher affinity for the somatostatin receptor.⁸ This should facilitate the detection of G protein-coupled trans membrane receptors SST1-SST5 in other cell types.⁸ [¹²⁵I] Tyr¹¹ somatostatin is a useful radioligand for receptor characterization, binding studies and high throughput screening experiments for drug discovery.

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 system. It is toxic and flammable. Target organs are the eyes, central nervous system, kidneys and liver.

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

REFERENCES:

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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., *Rad. Res.* 82 467 (1980).
5. Charlton, D.E., *Rad. Res.* 107 163 (1986).
6. Hunter, W.M. and Greenwood, F.C., *Nature*, 194, 495 (1962).
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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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