TECHNICAL DATA SHEET

^{125}I

Caution: For Laboratory Use. A product for research purposes only.

[Glp^{65}, Nle^{75}, Tyr^{77}] [^{125}I]-APELIN 13

Product Number: NEX393

Glp-Arg-Pro-Arg-Leu-Ser-His-Lys-Gly-Pro-Nle-Pro-[^{125}I]Tyr-OH

LOT SPECIFIC INFORMATION

CALCULATED AS OF: 13-Oct-2014

LOT NUMBER: KBA1440

SPECIFIC ACTIVITY: 81.4 TBq/mmol
2200 Ci/mmol
49.2 MBq/µg
1330 µCi/µg

CONCENTRATION: 5.89 MBq/ml
159.1 uCi/ml

Package Size Information

Package Size as of 14-Nov-2014	Volume
370 kBq 10 uCi	0.10 ml
925 kBq 25 uCi	0.25 ml
1.85 MBq 50 µCi	0.50 ml

RADIOCHEMICAL PURITY: ≥ 95%

MOLECULAR WEIGHT: 1654.75

PACKAGING: [^{125}I]-Apelin is in 50mM sodium acetate at pH 4 containing 5% sucrose and 0.25% BSA. It is shipped on dry ice.

STABILITY AND STORAGE: [^{125}I]-Apelin should be stored at 4°C. 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 [^{125}I]-Apelin is 2200 Ci/mmol (81 TBq/mmol), 1330 µCi/µg 49.2 MBq/µg). Preparative HPLC is used to separate unlabeled Apelin from [^{125}I]-Apelin. Upon decay, [^{125}I]-Apelin 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: Apelin is radioiodinated with no carrier added ^{125}I using a modification of the Hunter and Greenwood method[6] and is purified by reversed phase HPLC

APPLICATIONS: Apelin has recently been identified as the endogenous ligand for the human APJ receptor. [7] [Glu 65] Apelin 13 was more potent than Apelin 36 in competitive inhibition assays.[7] The Apelin 13 peptide was injected intravenously in male Wistar rats, resulting in immediate lowering of both systolic and diastolic blood pressure. [8] The expression of the APJ receptor in the human cardiovascular tissue has previously been reported. [9] The oxidation of methionine (position 75) was found to affect the agonistic activity of Apelin 36. [10] The substitution of Met [75] to Nle [75] did not reduce the agonist activity. [10]

AVAILABILITY: [^{125}I]-Apelin 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.

HAZARD WARNING: This product contains a chemical (s) known to the state of California to cause cancer.

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., *Radiation Research* 82 467 (1980).
5. Charlton, D.E., *Radiation Research,* 107 163 (1986).
6. Hunter, W.M. and Greenwood, F.C., *Nature* 194, 495 (1962).
7. Hosoya, M. et al.,*Journal of Biological Chemistry* , 275 21061 (2000).
8. Lee, D. K. et al., *Journal of Neurochemistry,* 74 34(2000).
9. Katugampola, S. D. et al., *British Journal of Pharmacology,* 132 1255(2001).
10. Kawamata, Y. et al., *Biochima et Biophysica Acta*, 1538 162 (2001).

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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