

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

[¹²⁵I]-TYR⁷-MOTILIN (HUMAN, PORCINE)

Product Number: NEX378



LOT SPECIFIC INFORMATION

CALCULATED AS OF: 15-Sep-2014

LOT NUMBER: JM02440

SPECIFIC ACTIVITY: 81.4 TBq/mmol
2200 Ci/mmol
28.9 MBq/μg
780 μCi/μg

CONCENTRATION: 6.5 MBq/ml
175.2 uCi/ml

MOLECULAR WEIGHT 2822

RADIOCHEMICAL PURITY: ≥ 95%

PACKAGING: [¹²⁵I]-Motilin is in a solution containing acetonitrile:water (35:65), 0.05M β-mercaptoethanol, 0.3% TFA and 0.3% BSA. It is shipped on dry ice.

STABILITY AND STORAGE: [¹²⁵I]-Motilin should be stored at -20°C. To avoid multiple freeze/thaw cycles, we recommend aliquoting into either plastic, silanized or Sigma-Cote™ glass and storing at -20°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 [¹²⁵I]-Motilin is 2200 Ci/mmol (81 TBq/mmol), 779 μCi/μg (28.8 MBq/μg). Preparative HPLC separates unlabeled Motilin from [¹²⁵I]-Motilin. Upon decay, [¹²⁵I]-Motilin 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 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: Human,porcine Motilin is radioiodinated with no carrier added ¹²⁵I using a lactoperoxidase procedure and is purified by reversed phase HPLC. This method predominantly labels tyrosine residues.

AVAILABILITY: [¹²⁵I]-Motilin 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.

Package Size Information

Package Size as of 24-Oct-2014	Volume
370 kBq 10 μCi	0.10 mL
925 kBq 25 μCi	0.25 mL

APPLICATIONS: The peptide hormone motilin (22 amino acids) affects gastric motility by stimulating antrum and duodenal contractions.⁶ The recent discovery of its receptor has renewed interest in studying the effects of motilin on gastroesophageal reflux disease, diabetic and post surgical gastroparesis, constipation and irritable bowel syndrome.⁶ Motilin binding sites have been reported in the rabbit brain and its effect on rabbit enteric smooth muscle tissue has been investigated.^{10,11,12}

Erythromycin A is a known motilin receptor agonist and is reported to induce interdigestive contractions at low levels.⁷ Other recent publications on motilin discuss its binding interactions and the identification of motilide pharmacophores.^{8,9}

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

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

REFERENCES:

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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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