# His [$^{125}$I]-GHRELIN (HUMAN)

**Product Number: NEX388**

Gly-Ser-Ser(*n*-Octanoyl)-Phe-Leu-Ser-Pro-Glu-[$^{125}$I]His-Gln-Arg-Val-Gln-Gln-Arg-Lys-Glu-Ser-Lys-Lys-Pro-Pro-Ala-Lys-Leu-Gln-Pro-Arg

## LOT SPECIFIC INFORMATION

**CALCULATED AS OF:** 22-Jul-2024

**LOT NUMBER:** JW83040

**SPECIFIC ACTIVITY** 81.4 TBq/mmol
2200 Ci/mmol
23.3 MBq/µg
629 µCi/µg

**CONCENTRATION:** 6.38 MBq/ml
172.5 µCi/ml

**RADIOCHEMICAL PURITY:** ≥ 95%

**MOLECULAR WEIGHT:** 3,495

**Package Size Information**

| Package Size as of 30-Aug-2024 | Volume |
|---|---|
| 370 kBq<br>10 µCi | 0.10 ml |
| 925 kBq<br>25 µCi | 0.25 mL |

**PACKAGING**: [$^{125}$I]-Ghrelin is in a solution containing 0.1% trifluroacetic acid and 0.4% BSA :46% 1-propanol and 54% acetonitrile (1:1). It is shipped on dry ice

**STABILITY AND STORAGE:** [$^{125}$I]-Ghrelin should be stored 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 [$^{125}$I]-Ghrelin is 2200 Ci/mmol (81 TBq/mmol), 629 µCi/µg (23.3 MBq/µg). Preparative HPLC is used to separate unlabeled Ghrelin from [$^{125}$I]-Ghrelin Upon decay, [$^{125}$I]-Ghrelin 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.

**PREPARATIVE PROCEDURE**: [$^{125}$I]-Ghrelin is radioiodinated with no carrier added $^{125}$I using a modification of the Hunter and Greenwood method[6] and purified by reversed phase HPLC.

**APPLICATIONS:** Ghrelin is an acylated endogenous peptide which stimulates the release of growth hormone from the pituitary through an orphan G-protein-coupled receptor (GHS-R)[7]. [[$^{125}$I]His ]Ghrelin (human), binds to GHS-R with high affinity.

**AVAILABILITY:** [$^{125}$I]-Ghrelin is routinely available from stock and is 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 inhalation, in contact with skin and if swallowed. Irritating to eyes, skin and respiratory system. Risk of serious damage to eyes. The target organs: nerves, liver.

**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., *Rad. Res*. 82 467 (1980).
5. Charlton, D.E., *Rad. Res*. 107 163 (1986).
6. Hunter and Greenwood, F.C., *Nature* 194 495 (1962).
7. Kojima, M., Hosoda, H., Date, Y., Nakazato, M., Matsuo, H., and Kangawa, K., *Nature*, 402, 656 (1999)


## 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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