

# [<sup>125</sup>I]-Vasoactive Intestinal Polypeptide

## [<sup>125</sup>I]-VIP

Product Number: NEX192

### LOT SPECIFIC INFORMATION:

CALCULATED AS OF: 22-Jan-2024

LOT NUMBER: CY30140

SPECIFIC ACTIVITY: 81.4 TBq/mmol  
2200 Ci/mmol  
23.6 MBq/μg  
638 μCi/μg

### Package Size Information

|                                     |
|-------------------------------------|
| Package Size<br>as of<br>1-Mar-2024 |
| 370 kBq<br>10 μCi                   |
| 1.85 MBq<br>50 μCi                  |

UNBOUND IODIDE: <5% unbound iodine

MOLECULAR WEIGHT: ~3.450

**PACKAGING:** [<sup>125</sup>I]-VIP is lyophilized from a solution containing 0.04M sodium phosphate, 1M glycine, 0.2M NaCl, 0.25% BSA, 500 KIU/ml Trasylo<sup>®</sup> at pH 7.2. It is shipped ambient.

**STABILITY AND STORAGE:** The lyophilized [<sup>125</sup>I]-VIP should be stored at 4°C or lower. Following reconstitution with distilled water to a concentration of approximately 50 μCi/ml on calibration date, aliquot into silanized or Sigma Cote™ vials 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 [<sup>125</sup>I]-VIP is 2200 Ci/mmol (81 TBq/mmol), 640 μCi/μg (24 MBq/μg). Preparative HPLC is used to separate unlabeled vasoactive intestinal peptide from [<sup>125</sup>I]-VIP. Upon decay, [<sup>125</sup>I]-VIP 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 <sup>125</sup>I decay and decay catastrophe of <sup>125</sup>I labeled compounds are available.<sup>1-5</sup>

**RADIOCHEMICAL PURITY:** Initially less than 5% unbound iodide as determined by thin layer chromatography.

**PREPARATIVE PROCEDURE:** VIP is radioiodinated with no carrier added <sup>125</sup>I using a modification of the Hunter and Greenwood method<sup>6</sup> and purified by reversed phase HPLC. This method predominantly labels

hunter and Greenwood method and purified by reversed phase HPLC. This method predominantly labels tyrosine residues.

**AVAILABILITY:** [<sup>125</sup>I]-VIP 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 contact, ingestion or inhalation. It is corrosive to the eyes and skin and is severely irritating to the eyes, skin and respiratory tract. It is toxic and flammable. Target organs are the respiratory system, central nervous system, kidneys and 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, W.M. and Greenwood, F.C., *Nature* 194 495 (1962).

**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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