

**TECHNICAL  
DATA  
SHEET** $^{125}\text{I}$ 

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

**[ $^{125}\text{I}$ ]- His, MePhe<sup>7</sup>-NEUROKININ B****Product Number: NEX285****[ $^{125}\text{I}$ ]-NKB**Asp-Met-[ $^{125}\text{I}$ ]His-Asp-Phe-Phe-MePhe-Gly-Leu-Met-NH<sub>2</sub>**LOT SPECIFIC INFORMATION****CALCULATED AS OF:****18-May-2015****LOT NUMBER:****FS61950****SPECIFIC ACTIVITY:****81.4 TBq/mmol  
2200 Ci/mmol  
58.1 MBq/μg  
1571.4 μCi/μg****Package Size Information**

<b>Package Size as of 19-Jun-2015</b>	<b>Volume</b>
<b>370 kBq 10 uCi</b>	<b>0.20 mL</b>
<b>1.85 mBq 50 uCi</b>	<b>1.00 mL</b>

**CONCENTRATION:****2.9 MBq/ml  
79.6 uCi/ml****RADIOCHEMICAL PURITY:****≥ 95%****MOLECULAR WEIGHT****1,400**

**PACKAGING:** [ $^{125}\text{I}$ ]-NKB is in a solution containing acetonitrile:water (35:65), 0.05M β-mercaptoethanol, 0.13% TFA, and 0.13% BSA. It is shipped on dry ice.

**STABILITY AND STORAGE:** [ $^{125}\text{I}$ ]-NKB should be stored at -20°C or lower. Under these conditions the product is stable and usable for at least four weeks after fresh lot date.

**SPECIFIC ACTIVITY:** The initial specific activity of [ $^{125}\text{I}$ ]-NKB is 2200 Ci/mmol (81 TBq/mmol), 1571 μCi/μg (58.1 MBq/μg). Preparative HPLC is used to separate unlabeled MePhe<sup>7</sup>-Neurokinin B from [ $^{125}\text{I}$ ]-NKB. Upon decay, [ $^{125}\text{I}$ ]-NKB 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  $^{125}\text{I}$  decay and decay catastrophe of  $^{125}\text{I}$  labeled compounds are available.<sup>1-5</sup>

**RADIOCHEMICAL PURITY:** Initially greater than 95% radiochemically pure as determined by HPLC.

**PREPARATIVE PROCEDURE:** Synthetic MePhe<sup>7</sup>-Neurokinin B 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 HPLC. Amino acid analysis indicates that this product is labeled exclusively on His.

**AVAILABILITY:** [<sup>125</sup>I]-NKB 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:** [<sup>125</sup>I]-NKB is a radioiodinated tachykinin which binds selectively to NK-3 receptors. [<sup>125</sup>I]-NKB complements substance P, which binds to NK-1 receptors; NKA, which binds to NK-2 receptors; and eledoisin, which binds to NK-2 and NK-3 receptors. Substance P and eledoisin are available from NEN Life Science Products in both <sup>3</sup>H and <sup>125</sup>I labeled forms.

**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 tract. It is toxic.

**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 1160 (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	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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