

## Product Data Sheet

Product Name: PyBrOP  
Cat. No.: GA10696

### Chemical Properties

Cas. No. 132705-51-2

Chemical Name bromo(tripyrrolidin-1-yl)phosphonium;hexafluorophosphate

SMILES C1CCN(C1)[P+](N2CCCC2)(N3CCCC3)Br.[P-](F)(F)(F)(F)F

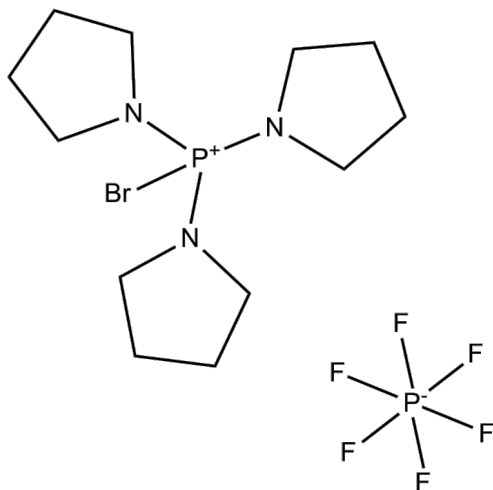
Formula  $C_{12}H_{24}N_3P_2BrF_6$  M.Wt 466.2

Solubility Soluble in water or 1% acetic acid Storage Desiccate at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



**Caution: Product has not been fully validated for medical applications. For research use only.**

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### Background

PyBroP is a phosphonium salt used in peptide coupling chemistry, similar to PyCloP [1]. PyBroP has the advantages of high efficiency, high yield, no diastereoisomerization and fast reaction rate in the coupling of N-methylated amino acids and  $\alpha,\alpha$ -disubstituted amino acids[2]. PyBroP is a derivative of the phosphonium coupling reagent BOP, but contains pyrrolidine in the place of dimethylamine in BOP[3]. PyBroP was developed as an alternative to the BOP reagent to avoid the release of toxic HMPA during the activation step[4, 5]. This capability makes PyBroP an essential tool in medicinal chemistry for synthesizing complex bioactive peptides intended for therapeutic drug development.

### References:

- [1] Coste J, Frerot E, Jouin P. Coupling N-methylated amino acids using PyBroP and PyCloP halogenophosphonium salts: mechanism and fields of application[J]. The Journal of Organic Chemistry, 1994, 59(9): 2437-2446.
- [2] Humphrey J M, Chamberlin A R. Chemical synthesis of natural product peptides: coupling methods for the incorporation of noncoded amino acids into peptides[J]. Chemical Reviews, 1997, 97(6): 2243-2266.
- [3] El-Faham A, Albericio F. Peptide coupling reagents, more than a letter soup[J]. Chemical reviews, 2011, 111(11): 6557-6602.
- [4] Han S Y, Kim Y A. Recent development of peptide coupling reagents in organic synthesis[J]. Tetrahedron, 2004, 60(11): 2447-2467.
- [5] Valeur E, Bradley M. Amide bond formation: beyond the myth of coupling reagents[J]. Chemical Society Reviews, 2009, 38(2): 606-631.

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