

# PRODUCT INFORMATION

## pH-Low Insertion Peptide (trifluoroacetate salt)

Item No. 46015

**Synonym:** pHILIP  
**Peptide Sequence:** ACEQNPIYWARYADWLFTTPLL L H-Ala-Cys-Glu-Gln-Asn-Pro-Ile-Tyr-Trp-Ala-DLALLVDADET-OH  
**MF:** C<sub>189</sub>H<sub>282</sub>N<sub>42</sub>O<sub>55</sub>S • XCF<sub>3</sub>COOH Arg-Tyr-Ala-Asp-Trp-Leu-Phe-Thr-Thr-Pro-  
**FW:** 4,054.6 Leu-Leu-Leu-Leu-Asp-Leu-Ala-Leu-Leu-Val-  
**Purity:** ≥95% Asp-Ala-Asp-Glu-Thr-OH  
**Supplied as:** A solid • XCF<sub>3</sub>COOH  
**Storage:** -20°C  
**Stability:** ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

pH-Low insertion peptide (pHLIP) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the pHLIP (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. pHLIP (trifluoroacetate salt) is sparingly soluble (1-10 mg/ml) in acetonitrile:water (1:1) and DMSO.

### Description

pHLIP is a tumor-targeting peptide.<sup>1,2</sup> It associates with and inserts across the cellular membrane to form a transmembrane  $\alpha$ -helix in low pH conditions, such as the acidic microenvironment of solid tumors. pHLIP accumulates in tumor tissue in a transgenic adenocarcinoma of mouse prostate (TRAMP) model and a HeLa cervical cancer mouse xenograft model.<sup>1</sup> It is selective for M4A4 highly metastatic breast cancer tumor tissue over NM3C5 weakly metastatic breast cancer tumor tissue in M4A4 and NM3C5 mouse xenograft models.<sup>1</sup> pHLIP-containing conjugates have been used in the detection and imaging of tumors in mice.<sup>1,2</sup>

### References

1. Reshetnyak, Y.K., Yao, L., Zheng, S., *et al.* Measuring tumor aggressiveness and targeting metastatic lesions with fluorescent pHLIP. *Mol. Imaging Biol.* **13**(6), 1146-1156 (2011).
2. Yao, L., Daniels, J., Moshnikova, A., *et al.* pHLIP peptide targets nanogold particles to tumors. *PNAS* **110**(2), 465-470 (2013).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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