



The Twinkle Factory

Stain different, tag FAST.

pFAST

pFAST is a small protein tag of 125 amino acids (14 kDa) engineered from the photoactive yellow protein (PYP) from *Halorhodospira halophila*. pFAST can be fused to the N- or C-terminus of any protein of interest. pFAST forms non-covalent and reversible fluorescent molecular assemblies with various ^{TF}Fluorogens of the Twinkle Factory, enabling to fluorescently label pFAST-tagged proteins *in vitro*, in live cells and in multicellular organisms. pFAST differs from FAST1 by the following mutations K17N, G21E, G25R, A30V, Q41L, S72T, V83A, M95T, M109L, S117R.

pFAST sequence

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MEHVAFGSEDIENLANMDDEQLDRLAFGVIQLDGDGNILLYNAAEGDITGRDPKQVIGKNFFKDVAPGTDTPFYGKFKKE  
GAAS GNLNTMFEWTIPTSRGPTKVKVHLKALKSGDRYWVFKRV
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DNA sequence coding for pFAST

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atggagcatgttgcccttggcagtgaggacatcgagaacactctggccaatatggacgacgaacaactggataggttggccttggcgttaattcagctcgat  
ggtgacgggaatatcctgctgtacaatgctgctgaaggggacatcactggcagagatcccaaacaggtgattgggaagaacttctcaaggatgtgcacc  
tggaacggatactcccaggttttacggcaaattcaaggaagcgagcgtcagggaatctgaacacatgttcgaatggacgataccgacaagcagggg  
accaaccaaggtcaaggtgactgaagaaagcccttccggtgacagatattgggtctttgtgaaacgggtg
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Reference

pFAST was initially disclosed in Benaissa, H., *et al.* Engineering of a fluorescent chemogenetic reporter with tunable color for advanced live-cell imaging. *Nat. Commun.* **12**, 6989 (2021). <https://doi.org/10.1038/s41467-021-27334-0>

Notice to Buyer/User

pFAST and/or their use may be covered by one or more of the following patents and patent applications:

- EP 3 164 411; JP 2017-527,261; US 10,138,278 (Fluorogen activating and shifting tag (FAST));
- EP 3 404 022; US 2020-0124611 (Membrane-impermeant fluorogenic chromophores).
- EP 3 719 007; US 2022-0169682 (Split photoactive yellow protein complementation system and uses thereof).

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