

All^{ele}ustrious pmWasabi-Zyxin

(Focal Adhesions)

Catalog Number: ABP-FP-WZY1000

Size: 10ug Price: \$349.00

Introduction

All^{ele}ustrious pmWasabi-Zyxin is a mammalian expression vector that expresses mWasabi fused to the C-terminus human zyxin (ZYX). This product can be a great tool for your research involving focal adhesions.

All^{ele}ustrious mWasabi is a monomeric green fluorescent protein that can be easily detected using standard GFP filter sets. mWasabi may be used as a direct replacement for EGFP or other GFPs for superior performance, and may be co-imaged with blue and red fluorescent labels without substantial bleed-through.

Zyxin is a zinc-binding phosphoprotein that is a component of focal adhesions and it localizes along the actin cytoskeleton. Zyxin has a proline-rich domain in the N-terminus and three LIM domains in its C-terminal half. The proline-rich domain may interact with SH3 domains of proteins involved in signal transduction while the LIM domains may mediate protein-protein binding. Zyxin may function as a messenger in the signal transduction pathway that modulates adhesion-stimulated changes in gene expression and the cytoskeletal organization of actin bundles.

Source

Engineered variant of mTFP1, originally derived from *Clavularia sp.* coral.

Recommended Use

mWasabi has been optimized for use with standard GFP/FITC filter sets.

Features

- About 2-fold brighter than EGFP
- Similar photostability to EGFP
- Uses standard filter sets
- Can be co-imaged with blue and red FPs or dyes
- Mammalian expression vector ready to transfect your favorite cells
- Low sensitivity to acidic pH (fluorescence pKa=4.3)
- True monomer that will not aggregate or cause nonspecific interactions

Reconstitution

10 µg provided in lyophilized powder form. Reconstitute with 10 µL of nuclease-free water for a final concentration of 1 µg/µL.

Storage

Store at -20°C or at -80°C for long-term preservation.

Human CMV Immediate-Early

Promoter (CMV Promoter).....1-589

Zyxin.....636-2348

Linker.....2349-2369

mWasabi.....2370-3080

SV40 PolyA Signal.....3232-3282

bla Promoter.....3821-3925

Ampicillin Resistance Gene.....3910-4770

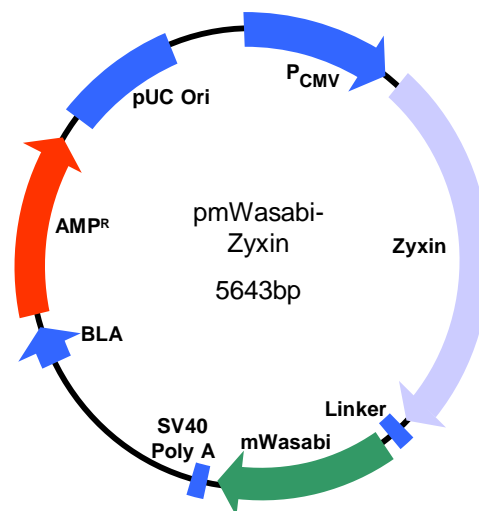
pUC Origin.....4919-5561

Upstream Sequencing Primer:

Universal CMV Promoter Primer

Downstream Sequencing Primer:

SV40 Primer:GCTTT ATTTG TGAAA TTTGT GATGC TATTG C



References: Ai H, Olenych SG, Wong P, Davidson MW, Campbell RE. Hue-shifted monomeric variants Clavularia cyan fluorescent protein: identification of the molecular determinants of color and applications in fluorescence imaging. *BMC Biology*. 2008 Mar; 6:13. Shaner NC, Patterson GH, Davidson MW. Advances in fluorescent protein technology. *J Cell Sci*. 2007 Dec 15;120(Pt 24):4247-60. Ai HW, Hazelwood KL, Davidson MW, Campbell RE. Fluorescent protein FRET pairs for ratiometric imaging of dual biosensors. *Nature Methods*. 2008 5(5): 401-03. Ai HW, Henderson JN, Remington SJ, Campbell RE. Directed evolution of a monomeric, bright, and photostable version of *Clavularia* cyan fluorescent protein: structural characterization and applications in fluorescence imaging. *Biochem J*. 2006. Shaner NC, Steinbach PA, Tsien RY. A guide to choosing fluorescent proteins. *Nat Methods*. 2005 2(12):905-09. Yi J, Kloeker S, Jensen CC, et al. (2002). "Members of the Zyxin family of LIM proteins interact with members of the p130Cas family of signal transducers.". *J. Biol. Chem.* 277 (11): 9580–9. Li B, Trueb B (2001). "Analysis of the alpha-actinin/zyxin interaction.". *J. Biol. Chem.* 276 (36): 33328–35.

SEQUENCE

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5641 CAT



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Acc113I	1	4216	agt/act	BsrDI	2	4461 4643	gcaatg
Acc16I	2	1882 4474	tgc/gca	BsrFI	6	1637 2098 2357 2805 3449 4612	r/ccggy
AccB1I	9	465 779 906 1525 1922 2070 2502 3513 4744	g/gyrcc	BsrGI	1	3070	t/gtaca
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AccBSI	2	3413 3858	gagcgg	BssHII	1	794	g/ccggc
AccIII	1	995	t/ccgga	BssSI	2	4033 5417	ctcgtg
AcsI	4	629 3252 3737 3748	r/aatty	BssT1I	5	360 634 1230 2368 2719	c/cwggg
AcyI	8	122 175 258 444 1923 2815 2863 4157	gr/cgyc	BstBI	1	627	tt/cgaa
AfeI	1	596	agc/gct	BstD102I	2	3413 3858	gagcgg
AflIII	2	3324 5585	a/crygt	BstDSI	6	360 634 2008 2368 2719 3034	c/crygg
AgeI	1	2357	a/ccggt	BstEII	1	3014	g/gtnacc
AhdI	2	1085 4697	gacnnn/ngtgc	BstH2I	5	598 1926 3399 3407 5345	rgcgc/y
Alw21I	7	620 899 2148 2317 4029 4114 5275	gwgw/c	BstI	1	2351	g/gatcc
Alw44I	2	4025 5271	g/tgca	BstMCI	7	934 1790 2362 3085 4179 4328 5251	cgry/cg
AlwNI	2	1259 5176	cagnnn/ctg	BstPI	1	3014	g/gtnacc
Ama87I	8	613 783 1132 1390 1603 1810 2138 2646	c/ycgrg	BstSPI	7	1201 1907 2924 3331 4451 5129 5320	c/tryag
AocI	2	1015 1330	cc/tnagg	BstSNI	1	340	tac/gta
Aor51HI	1	596	agc/gct	BstX2I	12	585 609 970 1494 2351 2983 4050 4067 4835 4847 4933 4944	r/gatcy
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BalI	2	1167 2455	tgg/cca	DraI	4	3140 4119 4811 4830	ttt/aaa
BamHI	1	2351	g/gatcc	DraII	7	787 1011 1019 1395 1672 1680 2593	rg/gnccy
BanI	9	465 779 906 1525 1922 2070 2502 3513 4744	g/gyrcc	DraIII	3	1628 2966 3557	caennn/gtg
BanII	11	620 791 1399 1487 1676 1684 1984 2164 2345 2540 3483	grgcy/c	DrdI	2	3601 5483	gacnnn/ngtgc
BbeI	1	1926	ggcgc/c	DsaI	6	360 634 2008 2368 2719 3034	c/crygg
BblI	8	122 175 258 444 1923 2815 2863 4157	gr/cgyc	EaeI	7	1165 1787 2180 2453 2894 3082 4304	y/ggccc
BbrPI	1	2312	cac/gtg	EagI	2	1787 3082	c/ggccc
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Bbv12I	7	620 899 2148 2317 4029 4114 5275	gwgw/c	EarI	1	3908	ctcttc
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BcgI	1	4181	cgannnnntgc	EclHKI	2	1085 4697	gacnnn/ngtgc
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BglI	7	90 212 283 814 1394 2937 4579	gcennn/nggc	Eco105I	1	340	tac/gta
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Bsh1285I	7	934 1790 2362 3085 4179 4328 5251	cgry/cg	EheI	1	1924	ggc/gcc
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BspEI	1	995	t/ccgga	Ksp632I	1	3908	ctcttc
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BspL11I	1	5585	a/catgt	MamI	1	3100	gatnn/nnatc
BspMI	2	1871 1976	acctgc	MfeI	1	3188	c/aattg
				MflI	12	585 609 970 1494 2351 2983 4050	r/gatcy



MluI	1	3324				a/cgcgt	PspAI	3	783 1132 1810	c/ccggg
MluNI	2	1167 2455				tgg/cca	PspALI	3	785 1134 1812	ccc/ggg
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MroNI	1	3449				g/ccggc	PstI	1	1205	ctgca/g
MscI	2	1167 2455				tgg/cca	PstNHI	1	591	g/ctagc
MslI	8	365 1876 2043 2370 2718 3926				caynn/nmrtg	PvuI	2	934 4328	cgat/cg
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		4157					SacI	1	620	gagct/c
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NdeI	1	234				ca/tatg	SmaI	3	785 1134 1812	ccc/ggg
NgoAIV	1	3449				g/ccggc	SnaBI	1	340	tac/gta
NgoMI	1	3449				g/ccggc	SphI	1	2000	gcatg/c
NheI	1	591				g/ctagc	SrfI	1	1812	gccc/gggc
NotI	1	3082				g/ggccgc	SseBI	1	2019	agg/cct
NsiI	1	5642				atgca/t	SspBI	1	3070	t/gtaca
NspBII	5	1718 1844 4061 5002 5247				cmg/ckg	SspI	2	3762 3892	aat/att
NspI	2	2000 5589				rcatg/y	SstI	1	620	gagct/c
NspV	1	627				tt/cgaa	StuI	1	2019	agg/cct
PaeI	1	2000				gcatg/c	StyI	5	360 634 1230 2368 2719	c/cwggg
PaeR7I	1	613				c/tcgag	Van91I	1	2809	ccannnn/ntgg
PflMI	1	2809				ccannnn/ntgg	VneI	2	4025 5271	g/tgcac
PinAI	1	2357				a/ccggt	VspI	2	7 4522	at/taat
Ple19I	2	934 4328				cgat/cg	XbaI	1	3092	t/ctaga
PmaCI	1	2312				cac/gtg	XcmI	1	3056	ccannnnnnnnntgg
Pme55I	1	2019				agg/cct	XhoI	1	613	c/tcgag
PmlI	1	2312				cac/gtg	XhoII	12	585 609 970 1494 2351 2983 4050	r/gatcy
Ppu10I	1	5638				a/tgcat			4067 4835 4847 4933 4944	
PshBI	2	7 4522				at/taat	XmaI	3	783 1132 1810	c/ccggg
Psp124BI	1	620				gagct/c	XmaII	2	1787 3082	c/ggccg
Psp1406I	2	4095 4468				aa/cgtt	XmnI	5	708 747 844 943 4097	gaann/nnttc
							Zsp2I	1	5642	atgca/t

The following enzymes do not cut:

Acc65I, Accl, AclNI, Afill, Ascl, Asp718I, Aspl, Atsl, AvrlI, BanIII, BclI, BfrI, BlnI, Bipl, Bpu1102I, Bsa29I, BscI, BseCI, BsiWI, Bsp106I, Bsp1720I, Bsp68I, BspDI, BspTI, BspXI, Bst1107I, Bst98I, Bsu15I, CellI, Cfr42I, Clal, Cpol, Cspl, Eco32I, EcoNI, EcoRV, Fbal, Fsel, KpnI, Ksp22I, Kspl, MspCI, Nrul, Pacl, Pfl23II, Pmel, PpuMI, PshAI, Psp5II, PspLI, RsrII, SacII, Sall, SapI, SbfI, Sfil, Sfr303I, Sgfi, SgrAI, Smil, Spl, Spll, Sse8387I, SstII, SunI, Swal, Tth111I, Vha464I

Related products:**Current Alle^{ele}ustious Fluorescent Protein Family Members:**

The founding member is mTFP1.

mTFPG3 is a green FP with 3 amino difference from mTFP1. It has a slightly red-shifted emission spectrum and is 1.5 fold brighter compared to EGFP. While being very bright, mTFPG3 can be photobleached within ~5 sec, about 30 times faster than EGFP, suitable for certain cell-based assays that require a bright FP with very short half-life.

mTFP0.7 is a precursor during the evolution of mTFP1. It has photo-switchable properties like Dronpa that cycles between fluorescent and nonfluorescent states. It may be developed into components in PALM/SIM applications.

Basic Vectors

Three vectors are available: pNCS-mWasabi, pmWasabi-N and pmWasabi-C.

Subcellular Marker Vectors

Twenty six vectors are available.

Vectors in Viral Vectors

All plasmid format vectors in Allele's Phoenix Retroviral vector or HiTiter Lentiviral Vectors.

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