

Supplemental Information

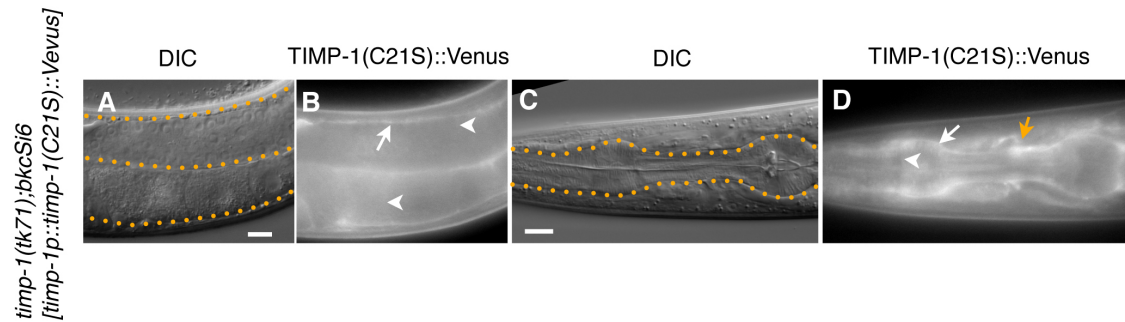


Figure S1. Localization of the inactive TIMP-1(C21S)::Venus construct in the *timp-1(tk71)* mutant

(A-D) DIC (A, C) and fluorescence (B, D) images of young-adult *timp-1(tk71);bkcSi6[timp-1p::timp-1(C21S)::Venus]* gonads (A, B) and pharynxes (C, D). White arrows, white arrowheads, and orange arrows indicate the basement membrane, plasma membrane of germ cells, and nerve rings, respectively. The orange dotted lines outline the gonad in panel A and the pharynx in panel D. In all panels, the anterior region of the gonad is to the left, and its dorsal region is at the top of the image. Scale bars, 10 μm .

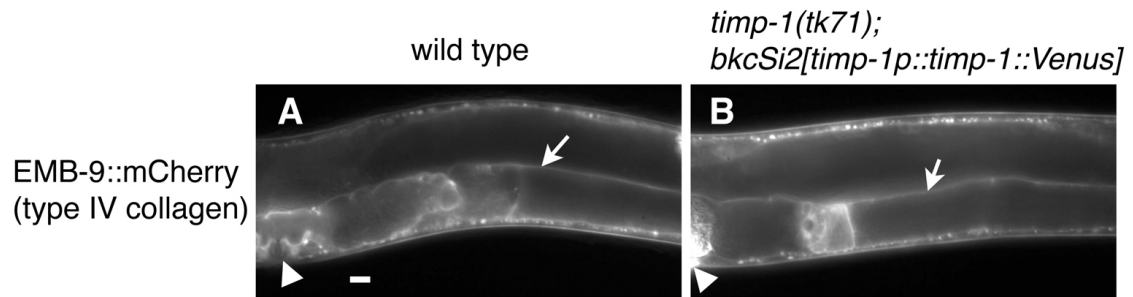


Figure S2. Recovery of EMB-9::mCherry accumulation on the gonadal basement membrane by expression of TIMP-1::Venus in the *timp-1(tk71)* mutant

Fluorescence (A, B) images of gonads in WT (A) and *timp-1(tk71);bkcSi2[timp-1p::timp-1::Venus]* (B) young adults with *tkTi1[emb-9/type IV collagen $\alpha 1$ chain::mCherry]*. The arrowhead in each panel indicates the vulva, and each arrow indicates the gonadal basement membrane. The photographic exposure time was the same in panels A and B. In both panels the anterior region of the gonad is to the left, and its dorsal region is at the top of the image. *bkcSi2[timp-1p::timp-1::Venus]* rescued the gonadal growth defects of the *timp-1(tk71)* mutants (data not shown). Scale bar: 10 μ m.

Table S1 C. *elegans* strains constructed for this study

Strain name	Genotype
SA867	<i>unc-119(ed3) III; timp-1(tk71)/nT1[qls51]V</i>
SA929	<i>gon-1(e1254)/nT1[qls51] IV; timp-1(tk71)/nT1[qls51]V</i>
SA1128	<i>tkTi1[emb-9p::emb-9::mCherry + Cb-unc-119]II;unc-119(ed3)III;timp-1(tk71)/nT1[qls51]V</i>
SA1163	<i>gon-1(g518)/nT1[qls51] IV;timp-1(tk71)/nT1[qls51]V</i>
SA1164	<i>gon-1(g518)/nT1[qls51]IV;cri-2(gk314)/nT1[qls51]V</i>
SA1165	<i>unc-119(ed3)III;gon-1(e1254)/nT1[qls51]IV;timp-1(tk71)/nT1[qls51]V</i>
SA1166	<i>unc-119(ed3)III;gon-1(q518)/nT1[qls51]IV;timp-1(tk71)/nT1[qls51]V</i>
SA1167	<i>gon-1(e1254)/nT1[qls51]IV;cri-2(gk314)/nT1[qls51]V</i>
SA1168	<i>cri-2(gk314)mig-17(k174) V</i>
SA1169	<i>timp-1(tk71)mig-17(k174)/nT1[qls51]V</i>
KUB1	<i>tkTi1[emb-9p::emb-9::mCherry + Cb-unc-119]II;unc-119(ed3)III;timp-1(tk71)IV; bkcSi2[pYK37, timp-1p::timp-1::Venus::timp-13'UTR + Cbr-unc-119(+)]X</i>
KUB2	<i>unc-119(e2498)III; gon-1(q518)/nT1[qls51]IV;Ex[mig-17p::mig-17::Venus(20), punc119(10), pBSIIKS(-)(120)] No1</i>
KUB3	<i>unc-119(e2498)III;gon-1(q518)/nT1[qls51]IV;cri-2(gk314)/nT1[qls51]V;Ex[mig-17p::mig-17::Venus(20), punc119(10), pBSIIKS(-)(120)] No1</i>
KUB4	<i>unc-119(e2498)III;mig-17(k174)V;Ex[punc-119(20), sur-5:GFP(70), gon-1(fosmid)(5), pBSIIKS(-)(55)] No5</i>
KUB5	<i>unc-119(e2498)III;cri-2(gk314)mig-17(k174); ;Ex[punc-119(20), sur-5:GFP(70), gon-1(fosmid)(5), pBSIIKS(-)(55)] No5</i>
KUB6	<i>unc-119 (e2498)III;bkcEx1[pYK71, timp-1p::timp-1::Venus::timp-1 3'UTR(5), punc-119(50), pBSIIKS(-)(95)] No1</i>
KUB7	<i>unc-119(e2498)III;bkcEx2[pYK76, cri-2p::cri-2p::Venus::timp-1 3'UTR(5), punc-119(50) , pBSIIKS(-)(95)] No1</i>
KUB30	<i>bkcSi1[pYK37, timp-1p::timp-1::Venus::timp-13'UTR + Cbr-unc-119(+)]II; unc-119(ed3) III;timp-1(tk71)V</i>

KUB31	<i>unc-119(ed3)III;timp-1(tk71)IV; bkcSi2[pYK37, timp-1p::timp-1::Venus::timp-13'UTR + Cbr-unc-119(+)]X</i>
KUB32	<i>unc-119(ed3)III;timp-1(tk71)/nT1[qls51]V;bkcSi3 [pYK56, myo-3p::timp-1::Venus::timp-1 3'UTR + Cbr-unc-119(+)]X</i>
KUB33	<i>unc-119(ed3)III;bkcSi5[pYK74, timp-1p::timp-1(C21S)::Venus::timp-1 3'UTR + Cbr-unc-119(+)]IV;timp-1(tk71)V</i>
KUB34	<i>bkcSi6[pYK74, timp-1p::timp-1 (C21S)::Venus::timp-1 3'UTR + Cbr-unc-119(+)]I; unc-119(ed3) III;timp-1(tk71)V</i>
KUB35	<i>oxIs322[myo-2p::mCherry::H2B + myo-3p::mCherry::H2B + Cbr-unc-119(+)]II;bkcSi4 [pYK60, timp-1p::GFP-his-58::timp-1 3'UTR + Cbr-unc-119(+)] unc-119(ed3) III</i>
KUB36	<i>unc-119(ed3)III;bkcSi7[pYK82, cri-2p::cri-2::Venus::cri-2 3'UTR +Cbr-unc-119(+)]IV</i>
KUB37	<i>bkcSi8[pYK87, dpy-7p::timp-1::Venus::timp-1 3'UTR + Cbr-unc-119(+)];unc-119(ed3)III;timp-1(tk71)V</i>
KUB38	<i>unc-119(ed3)III;bkcSi7[pYK82, cri-2p::cri-2::Venus::cri-2 3'UTR + Cbr-unc-119(+)]/nT1[qls51] IV;timp-1(tk71)/nT1[qls51]V</i>

Table S2 Plasmids constructed for this study

Plasmid name	Transgene
pYK14	<i>pCFJ909-MCS, Cbr-unc-119(+)</i> miniMos vector with a new multi-cloning site
pYK37	<i>timp-1p::timp-1::Venus::timp-1 3'UTR + Cbr-unc-119(+)</i>
pYK56	<i>myo-3p::timp-1::Venus::timp-1 3'UTR + Cbr-unc-119(+)</i>
pYK60	<i>timp-1p::GFP::his-58::timp-1 3'UTR + Cbr-unc-119(+)</i>
pYK64	<i>timp-1p::timp-1(C21S)::Venus::timp-1 3'UTR + Cbr-unc-119(+)</i>
pYK66	<i>L4440_cri-2</i>
pYK71	<i>timp-1p::timp-1::Venus::timp-1 3'UTR</i>
pYK76	<i>cri-2p::cri-2::Venus::cri-2 3'UTR</i>
pYK82	<i>cri-2p::cri-2::Venus::cri-2 3'UTR + Cbr-unc-119(+)</i>
pYK83	<i>L4440_timp-1</i>
pYK87	<i>dpy-7p::timp-1::Venus::timp-1 3'UTR + Cbr-unc-119(+)</i>