

Supplementary figure for

## Collagen V is potential substrate for clostridial collagenase G in pancreatic islet isolation

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Col-V α1 sequence

MDVHTRWKARSALRPGAPLLPPLLLLLLLWAPPPSRAAQPADLLKVLDFHNLDPGITKTTGFCATR  
SSKGPDVAYRVTKDAQLSAPTKQLYPASAFPEDFSILTTVKAKKGSQAFLVSIYNEQGIQQIGLEL  
GRSPVFLYEDHTGKPGPEDYPLFRGINLSDGKWHRIALSVHKKNVTILDCCKKTTKFLDRSDHPM  
IDINGIIVFGTRILDEEVFEGDIQQLLFVSDHRAAYDYCEHYS PDCDTAVPDTPQSQDPNPDEYYT  
EGDGEGETYYYYEYPYEDPEDLGKEPTPSKKPVEAAKETTEVPEELTPTPTTEAAPMPETSEGAGKE  
EDVGIGDYDYVPSEDYITPSPYDDLTYGEGEENPDQPTDPGAGAEIPTSTADTSNSSNPAPPPGEG  
ADDLEGEFTEETIRNLDENYYDPYYDPTSSPSEIGPGMPANQDTIYEGIGGPRGEKKGQKEPAIIE  
PGMLIEGPPGPEGPAGLPGPPTMGPTGQVGD PGERGPPGRPGLPGADGLPGPPGTMLMLPFRFGG  
GSDAGSKGPMVSAQESQAQAILQQARLALR

GPAGPMGLTGRPGPVGP GSGGLKGE PGDVGPQGPRGVQGP GPAGKPRRRGRAGSDGARGM PGQT

GPKGDRGFDGLAGLPGEKGHRGDPGPSGP PGPGDDGERGDDGEVGPRLPGE PGPRGLLGPKGPP

GP PGPGVTGMDGQ GPKGNVGPQGE PGPPGQQGNPGAQGL GPQGAIGP PGEKGPLGKPGLP GMP

GADGP PGHPGKEGPPGEKGGQGP GPQGPIGY PGRGVKGADGIRGLKGTKGEKGEDGF PGFKGDM

GIKGRGEIG PGPRGEDGPEGPKGRGGPNGD PGPLGPPGEKKGKLGVPGL PGYPGRQGPKGSIGFP

GF PGANGEKGGRGTPGKPGPRGQRGPTGPRGERGPRGITGK PGPKGNSGGDGPAGP GERGPNGPQ

GPTGF PGPKGP PGPGKDGL PGHPGQRGETGFQGTGPG PGPGVVGPQGPTGETGPMGERGH PGPP

GP PGEGQL PGLAGKEGTKGD PGPAGL PGKDGP GLRGFP GDRGL PGVPGALGLKGNEGP PGPGPA

GS PGERGPAGAAGPIGIPGR PGPGPGPAGEKGAPGEKGPQG PAGRDGLQG PVLPGPAGPVGPP

GEDGDKGEIGE PGQKGSKGDKGEQGP PGPTGPQGPIGQ PGPSGADGEPGRGQQGLFGQKGEDEPR

GF PGPGPGPVLQGL PGPGGEKGETGDVGQMGP PGPGPRGPSGAPGADGPQGPPGGIGN PGAVGEK

GE PGGEAGE PGLPEGGP PGPKGERGEKGESGPSGAAGP PGPKGPPGDDGPKGS PGPGVGF PGDPGP

GE PGPAQDGP PGDKDDGEPGQTGSPGPTGE PGPSGP PGKRGPPGPAGPEGRQGEKGAKGEAGLE

GP PGKTGPIGPQGA PGKPGPDGLRGI PGPVGEQGL PGSPGPDGPPGPMGPPL PGLKGDSPKGEK

GH PGLIGLIGP PGEQGEKGDRGL PGPGQSSGPKGEQGITGPSGP IGP PGPPGLPGPPGPKGAKGSS

GPTGPKGEAGH PGPGPGPGPGEV

IQPLPIQASRTRRNIDASQLDDGNGENYVDYADGMEEIFGSLNSLKLEIEQMKRPLGTQQNPART  
CKDLQLCHPDFPDGEYWVDPNQGC SRDSFKVYCNFTAGGSTCVFPDKKSEGARITSWPKENPGSWF  
SEFKRGKLLSYVDAEGNPVG VQMTFLRLLSASAHQNVTYHCYQSVAWQDAATGSYDKALRFLGSN  
DEEMSYDNNPYIRALVDGCATKKGYQKTVLEIDTPKVEQVPIVDIMFNDFGEASQKFGFEVGPACF  
MG

# Col-V α2 sequence

MMANWAEARPLLLILIVLLGQFVSIKAQEEDEDEGYGEEIACTQNGQMYLNRDIWKPAPCQICVCDN  
GAILCDKIECQDVLDCADPVTTPPGECCPVCSQTPGGGNTNFGRGRKGQKGEPLVPVVTGIRGRPG  
PAGPPGSQGPRGERGPKGRPGPRGPQGIDGEPGVPGQPGAPGPPGHPSHPGPDGLSRPFSAQMAGL  
DEKSGGLGSQVGLMP

GSVGPVGPGRGPQGLQGGAGPTGPPGEPGDPGPMGPIGSRGPEGPPGKPGEDGEFGRNGNPGEV  
GFAGSPGARGFPGAPGLPGLKGHRGHKGLEGPKGEVGA PGSKGEAGPTGPMGAMGPLGPRGMPPER  
GRLGPQGAPGQRGAGHMPGKPGPMGPLGIPGSSGFPGNPGMKGEAGPTGARGPEGPQGQRGETGPP  
GPVGSPLPGAIGTDGTPGAKGPTGSPGTSPPGSAGPPGSPGPGQGSTGPQGIRGQPGDPGVPGFK  
GEAGPKGEPGPHGIQGPIGPPGEEGKRGRGDPGTVGPPGPVGERGAPGNRGFPGSDGLPGPKGAQ  
GERGPVGSSGPKGSQGDPRPGEPGLPGARGLTGNPGVQGPEGKLGPLGAPGEDGRPGPPGSIGIR  
GQPGSMGLPGPKGSSGDPGKPGEAGNAGVPGQRGAPGKDGEVGPSPGPVGPPLAGERGEQGPPGPT  
GFQGLPGPPGPPGEGGKPGDQGVPGDPGAVGPLGPRGERGNPGERGEPGITGLPGEKGMAGGHGPD  
GPKGSPGPSGTPGDTGPPGLQGMPGERGIAGTPGPKGDRGGIGEKGAEGTAGNDGARGLPGLGPP  
GPAGPTGEKGEPGPRGLVGPPGSRGNPGSRGENGPTGAVGFAGPQGPDPGQPGVKGEPGEPGQKGD  
GSPGPQGLAGSPGPHGPNVPGPKGGRGTQGPPGATGFPGSAGRVGPPGPAGAPGPAGPLGEPGKE  
GPPGLRGDPGSHGRVGDGPAGPPGGPGDKGDPGEDGQPGPDGPPGPAGTTGQRGIVGMPGQGER  
GMPGLPGPAGTPGKVGPTGATGDKGPPGPVGPFGSNGPVGEPGPEGPAGNDGTPGRDGAVGERGDR  
GDPGPAGLPGSQGAPGTPGPVGA PGDAGQRGDPGSRGPIGPPGRAGKRGLPGPQGPRGDKGDHGR  
GDRGQKGHRGFTGLQGLPGPPGPNGEQGSAGIPGPFGRGPPGPVGPSPGKEGNPGPLGPIGPPGVR  
GSVGEAGPEGPPGEPGPPGPPGPPGHL

TAALGDIMGHYDESMPLPEFTEDQAAPDDKNKTDPGVHATLKSLSQIETMRSPDGSKKHPART  
CDDLKLCHSAKQSSEYWIDPNQGSVEDAIKVYCNMETGETCISANPSSVPRKTWWASKSPDNKPVW  
YGLDMNRGSQFAYGDHQSPNTAITQMTFLRLLSKEASQNITYICKNSVGYMDDQAKNLKKA VVLKG  
ANDLDIKAEGNIRFRYIVLQDTC SKRNGNVGKTVFEYRTQNVARLP IIDLAPVDVGGTDQEF GVEI  
GPVCFV

Col-V α3 sequence

MGNRRDLGQPRAGLCLLLAALQLLPGTQADPVDVLKALGVQGGQAGVPEGPGFCPQRTPEGDRAFR  
IGQASTLGIPTWELFPEGHFPENFSLITLRGQPANQSVLLSIYDERGARQLGLALGPALGLLGDP  
FRPLPQQVNLT DGRWHRVAVSIDGEMVTLVADCEAQPPVLGHGPRFIS IAGLTVLGTQDLGEKTFE  
GDIQELLISPD PQAAFQACERYLPDCDNLAPAATVAPQGE PETPRPRRK GKKGKGRKKGRGRKGKGR  
KKNKEIWTSSPPPSAENQ TSTDI PKTETPAPNLPPTPTPLVVTSTVTTGLNATILEGSLDPDSGT  
ELGTLETKAAREDEEGDDSTMGPDFRAAEYPSRTQFQIFPGAGEKGAKGEPAVIEKGQQFEGPPGA  
PGPQGVVGPSGPPGPPGFPDGP PGPAGLP GIPGIDGIRGPPGT VIMMPFQFAGGSFKGPPVSFQ  
QAQAQAVLQQTQLSMK

GPPGPVGLTGRPGPVGLPGHPGLKGEEGAEGPQGRGLQGPHGPPGRVGMGRPGADGARGLPGDT  
GPKGDRGFDGLPGLPGEKGQRGDFGHVGPQPPGEDGERGAEGPPGPTGQAGEPGPRGLLGPRGSP  
GPTGRPGVTGIDGAPGAKGNVGPPEPGPPGQQGNHGSQGLPGPQGLIGTPGEKGPPGNPGIPGLP  
GSDGPLGHPGHEGPTGEKGAQGP PGSAGPPGYPGPRGVKGTSGNRGLQGEKGEKGEDGFP GFKGDV  
GLKGDQGKPGAPGPRGEDGPEGPKGQAGQAGEEGPPGSAGEKKGKLGVPGLPGYPGRPGPKGSIGFP  
GPLGPIGEKGKSGKTGQPGLEGERGPPGSRGERGQPGATGQPGPKGDVGQDGAPGIPGEKGLPGLQ  
GPPGFPGPKGPPGHQKDG RPHPGQRGELGFQGGTGP PGPAVLGPQKTGEVGPLGERGPPGPP  
GPPGEQGLPGLEGREGAKGELGPPGPLGKEGPAGLRGFPGPKGGPDGPPTGLKGDKGPPGPVGAN  
GSPGERGPLGPAGGIGLPGQSGSEGPVGPAGKKGSRGERGPPGPTGKDGI PGPLGPLGPPGAAGPS  
GEEGDKGDVGAPGHKGSKGDKDAGPPGQPGIRGPAGHPGPPGADGAQRRGPPGLFGQKGGDGV  
GFVGVIGPPGLQGLPGPPGEKGEVGDVGSMGPHGAPGPRGPQGPTGSEGTPGLPGGVGQPGAVGEK  
GERGDAGDPGPPGAPGIPGPKGDIGEKGDSGPSGAAGPPGKKGPPGEDGAKGSVGPTGLPGDLGPP  
GDPGVSGIDGSPGEKGD PGDVGGPGPPGASGEPGAPGPPGKRGPSGHMGREGREGEKGAKGEPGPD  
GPPGRTGPMGARGPPGRVGPEGLRGIPGPVGE PLLGAPGQMGP PGPLGPSGLPGLKGD TGPKGEK  
GHI GLIGLIGPPGEAGEKGDQGLPGVQGP PGPKGDPGPPGPIGSLGHFGPPGVAGPLGQKGSKGSP  
GSMGPRGDTGPAGPPGPPGAP

AELHGLRRRRRFVPVPLPVVEGGLEEVLASLTSLSLELEQLRRPPGTAERPGLVCHELHRNHPHLP  
DGEYWIDPNQGCARDSFRVFCNFTAGGETCLYPDKKFEIVKLASWSKEKPGGWYSTFRRGKKFSYV  
DADGSPVNVVQLNFLKLLSATARQNFTYSCQNAAAWLDEATGDYSHSARFLGTNGEELS FNQTTAT  
TVSVPQDGCRLRKGQTKTLFEFSSSRAGFLPLWDVAATDFGQTNQKFGFELGPVCFSS

Supplementary figure 1. Sequences of collagen  $\alpha 1$ ,  $\alpha 2$ , and  $\alpha 3$ . The Gly-Xaa-Yaa repeats are denoted in individual block. The red and blue triangles indicate the cleavage sites detected for the sample which is digested 60 min and 3min, respectively. The hydroxylproline positions in  $\alpha 1(V)$  are shown in green.