

## Supporting Information

# INGAP-Peptide Variants as a Novel Therapy for Type 1 Diabetes: Effect on Human Islet Insulin Secretion and Gene Expression

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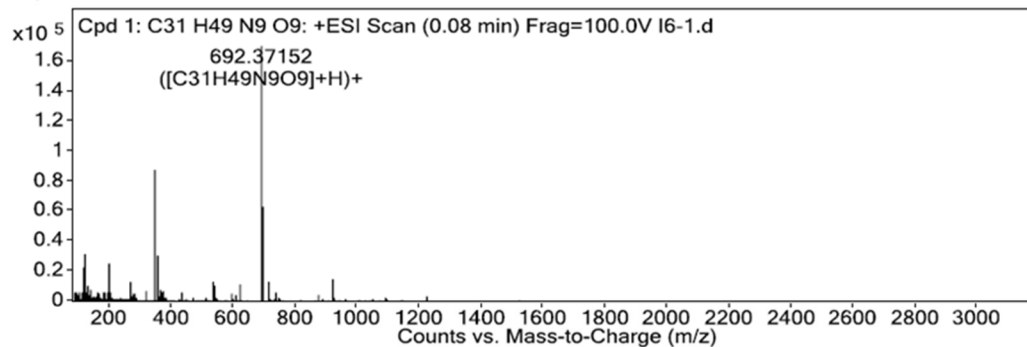
\* Corresponding Author: maryam.tabrizian@mcgill.ca

# Sample Mass Spectrometry Data: I6 exact mass isomer

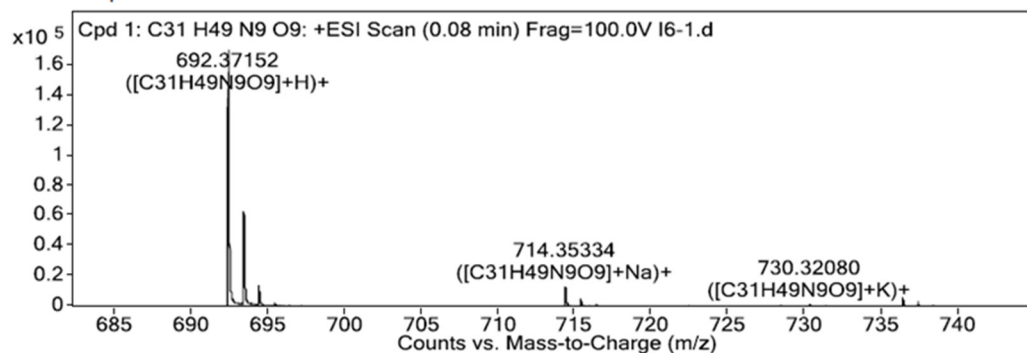
## Exact Mass Report – I6

<b>Data File</b>	I6-1.d	<b>Sample Name</b>	I6-1
<b>Sample Type</b>	Sample	<b>Position</b>	P1-B1
<b>Analysis Date</b>	7/11/2019 9:50:04 AM	<b>User Name</b>	KG
<b>Acq Method</b>	ESI_POS_DI.m	<b>InstrumentName</b>	TOF 6224
<b>Comment</b>	MPA:H2O+0.1%FA MPB:MeOH		

### MS Spectrum



### MS Zoomed Spectrum



### MS Spectrum Peak List

Ion	Formula	Abund	Expe. m/z	Calc. m/z	Diff(ppm)
(M+H)+	C <sub>31</sub> H <sub>49</sub> N <sub>9</sub> O <sub>9</sub>	171227.52	692.37152	692.3726	1.56
(M+Na)+	C <sub>31</sub> H <sub>49</sub> N <sub>9</sub> O <sub>9</sub>	13114.12	714.35334	714.35455	1.69

Sample Purity Analysis: I19 (after purification)

# Purity

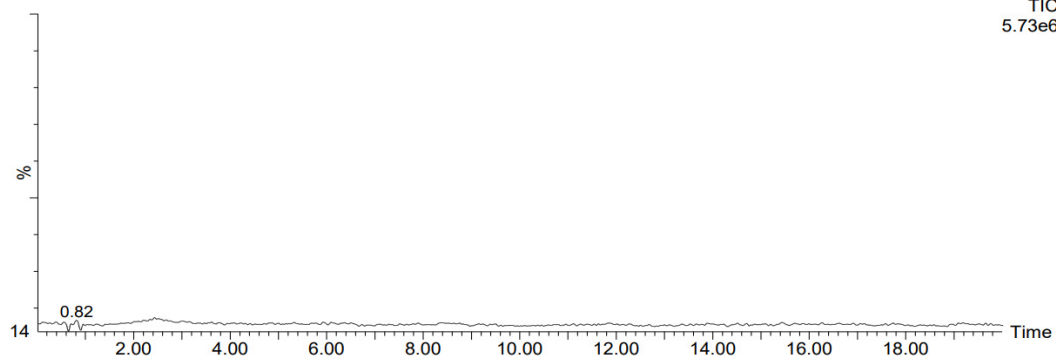
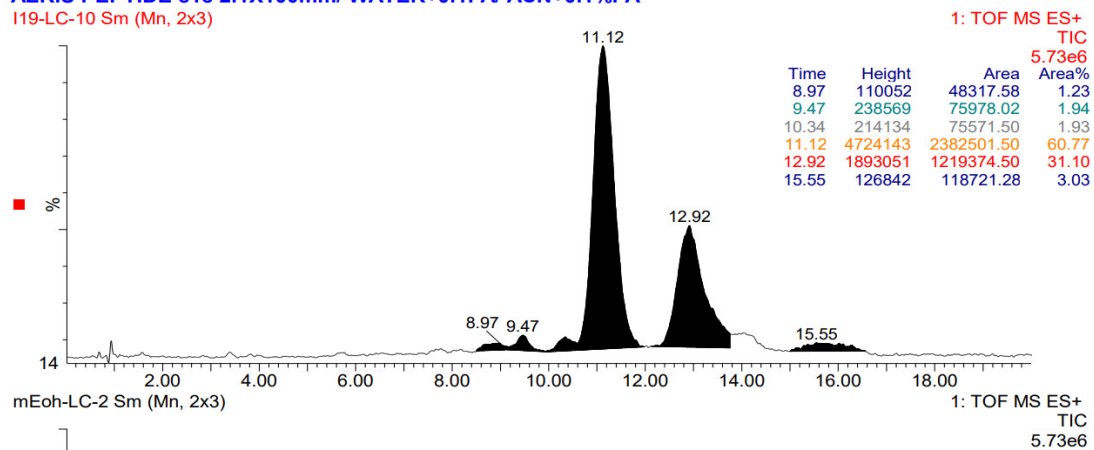
**Data File** I19  
**Folder** 2019I\_sep  
**Acq Method** LC\_ISO23\_20min\_col2  
**Instrument** synapt  
**Date** 15-Sep-19

**Sample Name** I19  
**User Name** LOUIZA  
**DA Method**

## Chromatogram

**AERIS PEPTIDE c18 2.1X100mm/ WATER+0.1FA/ ACN+0.1%FA**

I19-LC-10 Sm (Mn, 2x3)

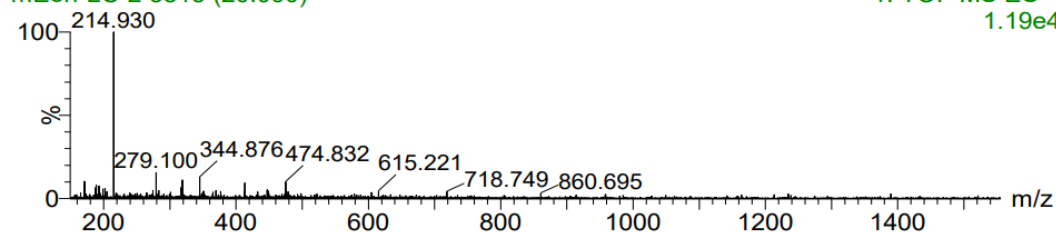


**MS spectrum**

**AERIS PEPTIDE c18 2.1X100mm/ WATER+0.1FA/ ACN+0.1%FA**

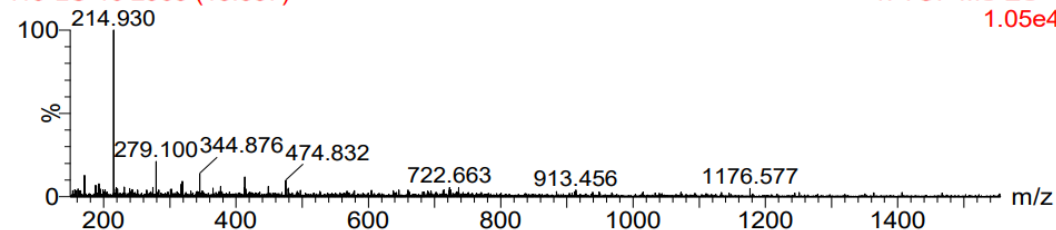
mEoh-LC-2 3815 (20.000)

1: TOF MS ES+  
1.19e4



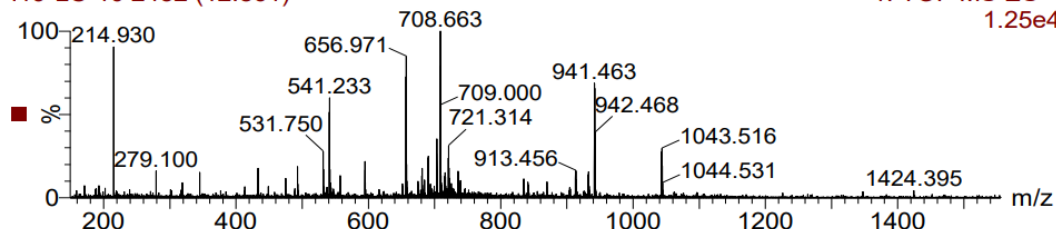
I19-LC-10 2963 (15.537)

1: TOF MS ES+  
1.05e4



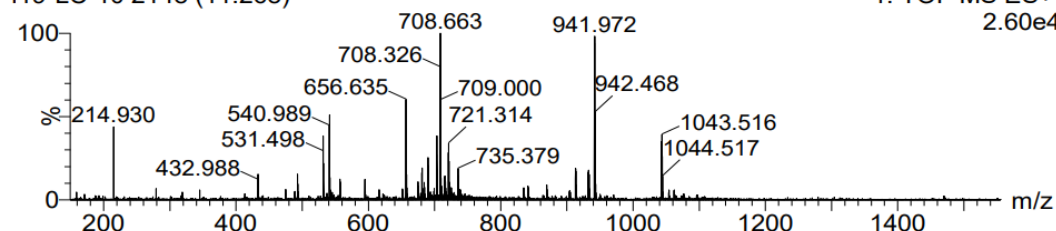
I19-LC-10 2452 (12.861)

1: TOF MS ES+  
1.25e4



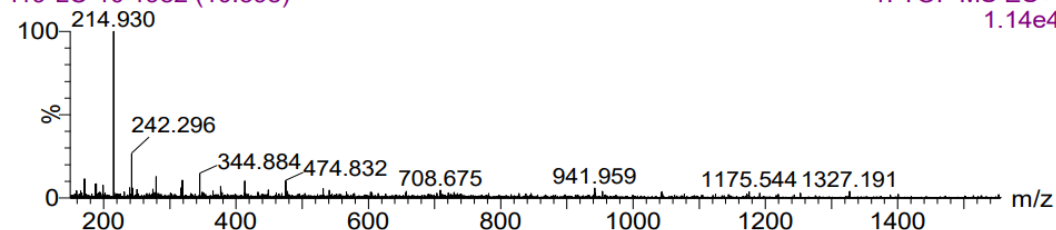
I19-LC-10 2148 (11.268)

1: TOF MS ES+  
2.60e4



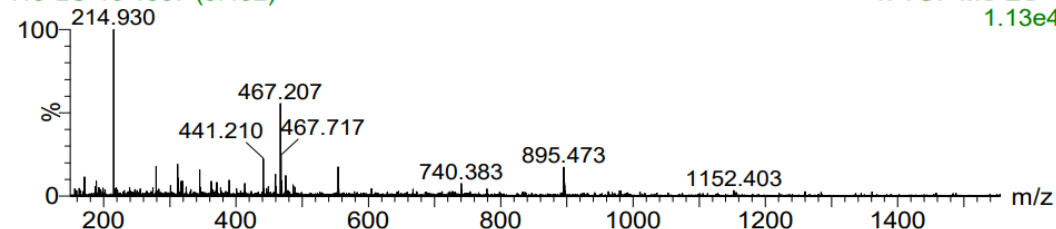
I19-LC-10 1982 (10.398)

1: TOF MS ES+  
1.14e4



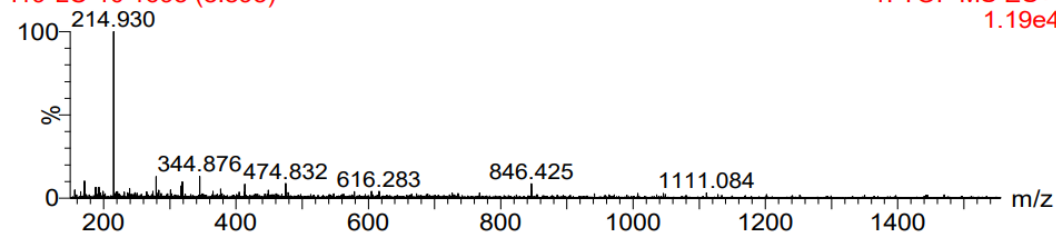
I19-LC-10 1807 (9.482)

1: TOF MS ES+  
1.13e4



I19-LC-10 1695 (8.895)

1: TOF MS ES+  
1.19e4



## Preliminary perfusion tests of human islets

Figure 1S displays very much similar line shapes of human islets in response to stimuli despite varying degrees of insulin released. Based off these initial observations, we focused on quantifying the amount of insulin released during the primary response as a gauge for evaluation. This figure has been added in the supporting information.

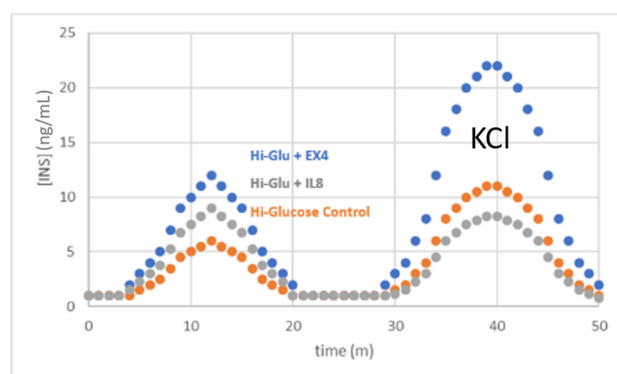


Figure S1: Dynamic stimulation of human islets in response to stimuli. Primary stimulation (5-20m) is followed by membrane depolarization by KCl (30-50m).

## Gene Expression

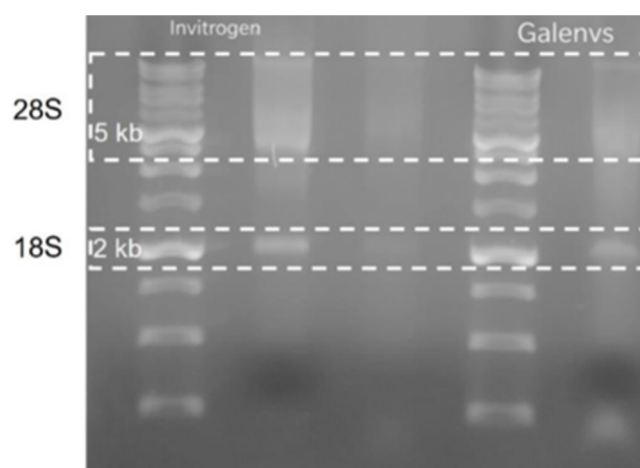


Figure S2 - Gel electrophoresis of purified RNA using Invitrogen kit

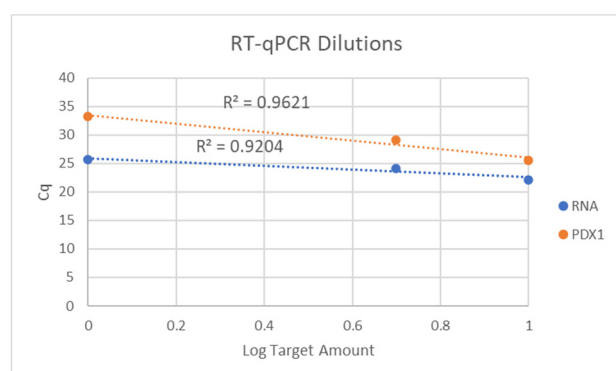


Figure S3 - Linear dependence of threshold amplification validates qPCR primers and RNA extraction