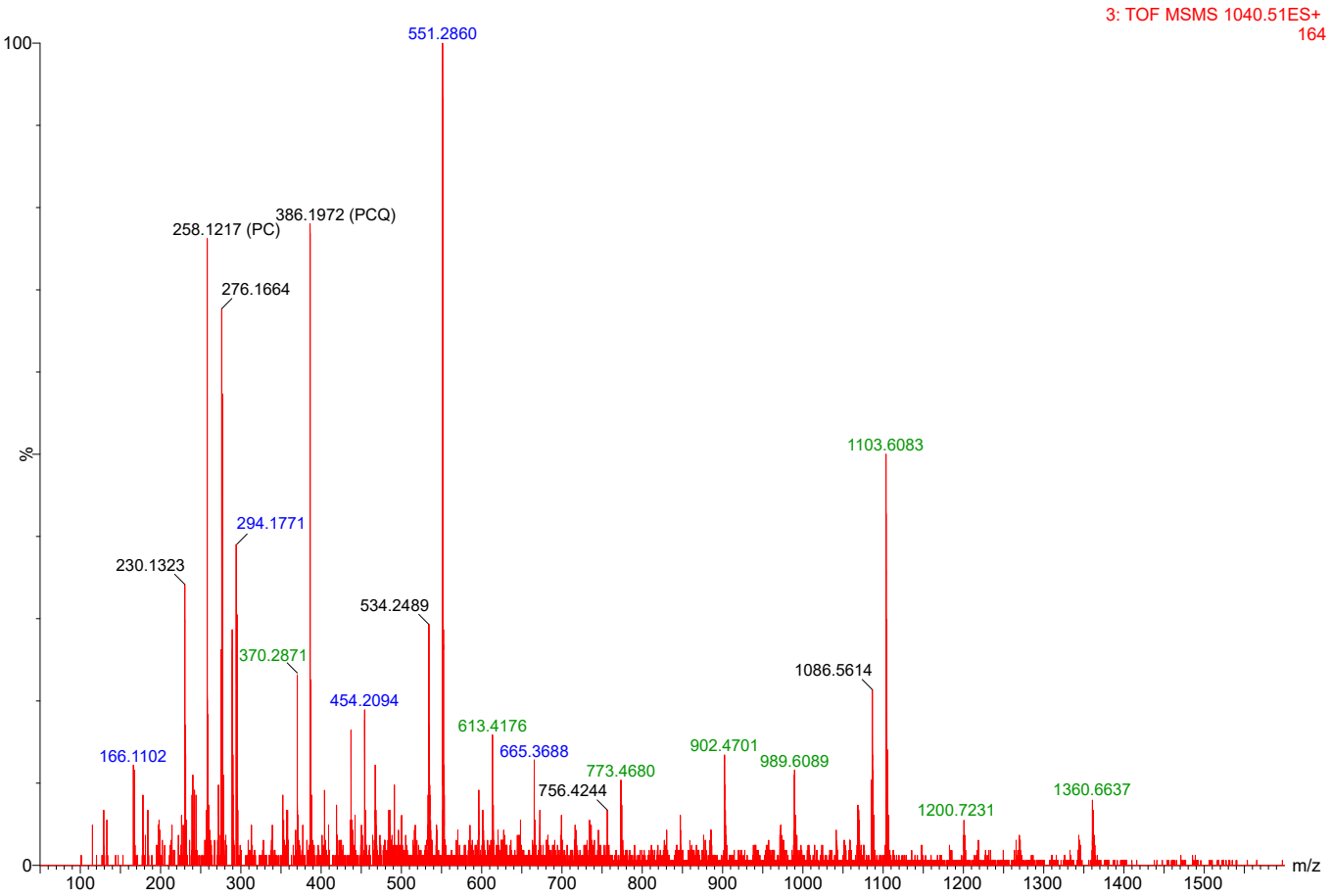
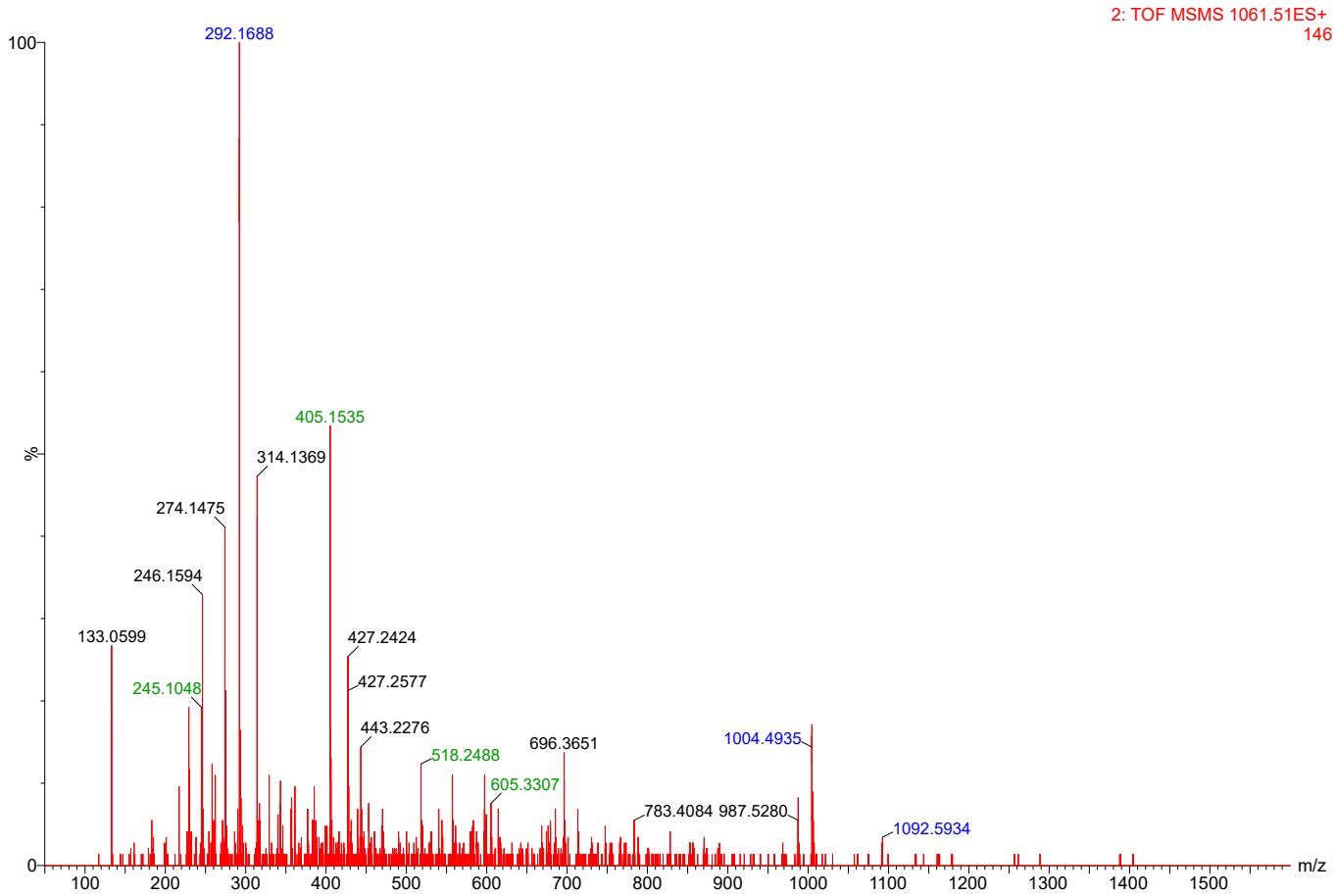



EGF 16 KQINEC(Carbamidomethyl)ESNPC(Carbamidomethyl)QF

MH+1(mono)
1653.6996

| | b | | y | |
|---|---|---|---|---|
| --- | 1 | K | 13 | --- |
| 257.1608 | 2 | Q | 12 | 1525.6046 |
| **370.2449** | 3 | I | 11 | 1397.5460 |
| 484.2878 | 4 | N | 10 | 1284.4620 |
| **613.3304** | 5 | E | 9 | 1170.4190 |
| **773.3610** | 6 | C(Carb) | 8 | 1041.3764 |
| **902.4036** | 7 | E | 7 | 881.3458 |
| **989.4357** | 8 | S | 6 | 752.3032 |
| **1103.4786** | 9 | N | 5 | **665.2712** |
| **1200.5314** | 10 | P | 4 | **551.2282** |
| **1360.5620** | 11 | C(Carb) | 3 | **454.1755** |
| 1488.6206 | 12 | Q | 2 | **294.1448** |
| --- | 13 | F | 1 | **166.0863** |

**Figure S1.** MS/MS fragmentation of a mass of 1040.51 at 20.16 min from the AspN digest of purified EGF16-20 expressed with hGXYLT1 and hXXYLT1, close to the theoretical mass of the EGF16 peptide with XylXylGlc modification (1040.42 Da 2+). Theoretical b- and y- ions of the EGF16 peptide are listed below and green and blue marked masses fit to observed masses. 258.1217 (PC) and 386.1972 (PCQ) correspond to two internal peptide fragments.

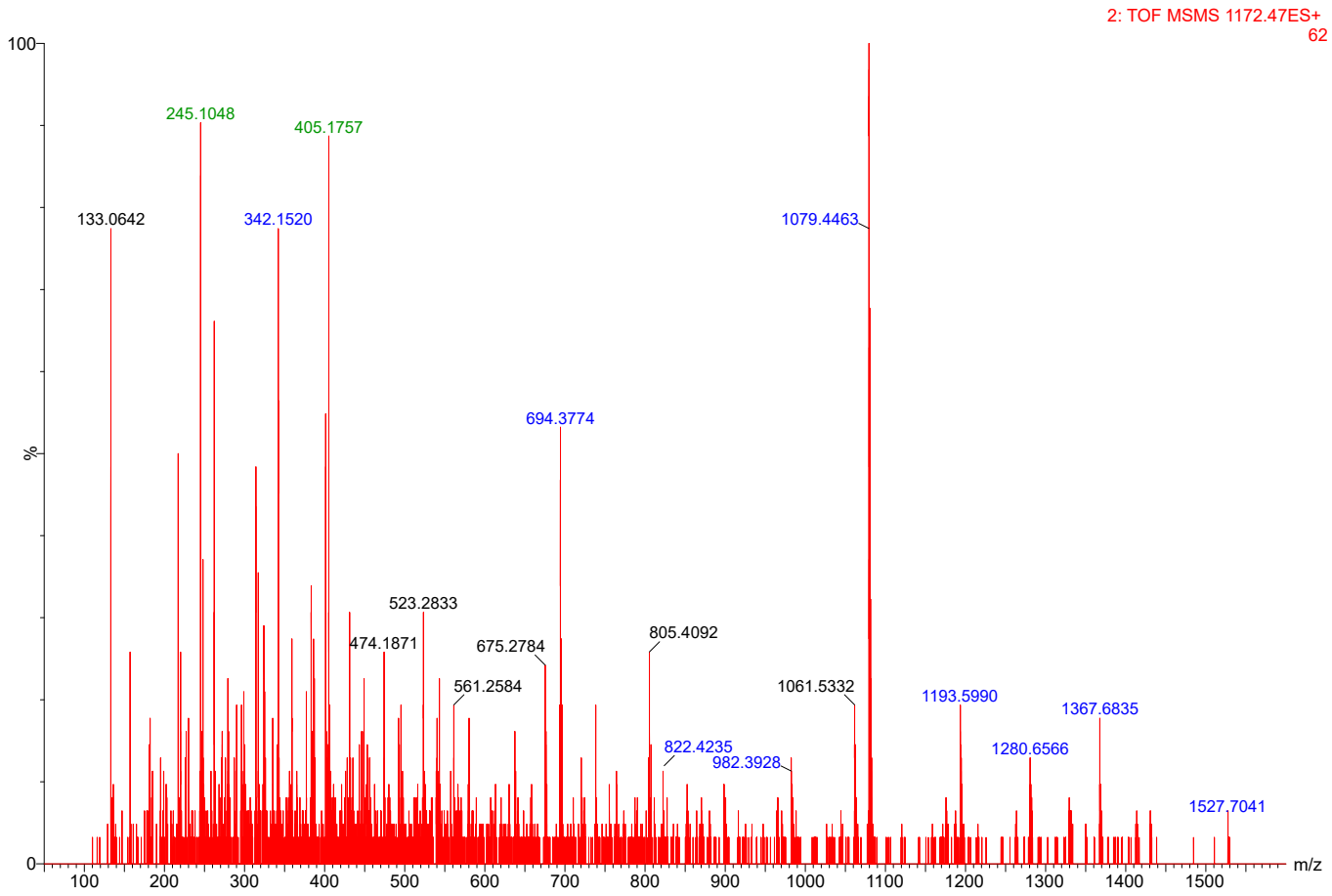



DEC(Carbamidomethyl)ISSPC(Carbamidomethyl)ANNGVC(Carbamidomethyl)I

MH+1(mono)
1695.6771

| b | | | y | |
|---|---|---|---|---|
| --- | 1 | D | 15 | --- |
| **245.0768** | 2 | E | 14 | 1580.6502 |
| **405.1075** | 3 | C(Carb) | 13 | 1451.6076 |
| **518.1915** | 4 | I | 12 | 1291.5769 |
| **605.2236** | 5 | S | 11 | 1178.4929 |
| 692.2556 | 6 | S | 10 | **1091.4608** |
| 789.3083 | 7 | P | 9 | **1004.4288** |
| 949.3390 | 8 | C(Carb) | 8 | 907.3760 |
| 1020.3761 | 9 | A | 7 | 747.3454 |
| 1134.4190 | 10 | N | 6 | 676.3083 |
| 1248.4620 | 11 | N | 5 | 562.2654 |
| 1305.4834 | 12 | G | 4 | 448.2224 |
| 1404.5518 | 13 | V | 3 | 391.2010 |
| 1564.5825 | 14 | C(Carb) | 2 | **292.1326** |
| --- | 15 | I | 1 | 132.1019 |

**Figure S2.** MS/MS fragmentation of a mass of 1061.51 at 26.12 min from the AspN digest of purified EGF16-20 expressed with hGXYLT1 and hXXYLT1, close to the theoretical mass of the EGF18 peptide with XylXylGlc modification (1061.41 Da 2+). Theoretical b- and y- ions of the EGF18 peptide are listed below and green and blue marked masses fit to observed masses.




EGF 20 DEC(Carbamidomethyl)SSNPC(Carbamidomethyl)QHGGTC(Carbamidomethyl)Y
MH+1(mono)
1771.6105
[

| | b | | y | |
|---|---|---|---|---|
| - | -- | 1 D | 15 | --- |
| **245.0768** | 2 | E | 14 | 1656.5836 |
| **405.1075** | 3 | C(Carb) | 13 | **1527.5410** |
| 492.1395 | 4 | S | 12 | **1367.5103** |
| 579.1715 | 5 | S | 11 | **1280.4783** |
| 693.2144 | 6 | N | 10 | **1193.4463** |
| 790.2672 | 7 | P | 9 | **1079.4033** |
| 950.2979 | 8 | C(Carb) | 8 | **982.3506** |
| 1078.3564 | 9 | Q | 7 | **822.3199** |
| 1215.4153 | 10 | H | 6 | **694.2613** |
| 1272.4368 | 11 | G | 5 | 557.2024 |
| 1329.4583 | 12 | G | 4 | 500.1810 |
| 1430.5060 | 13 | T | 3 | 443.1595 |
| 1590.5366 | 14 | C(Carb) | 2 | **342.1118** |
| - | -- | 15 Y | 1 | 182.0812 |

**Figure S3.** MS/MS fragmentation of a mass of 1172.47 at 18.59 min from the AspN digest of purified EGF16-20 expressed with hGXYLT1 and hXXYLT1, close to the theoretical mass of the EGF 20 peptide with XylXylGlc modification and an additional fucose (1172.40 Da 2+). Theoretical b- and y- ions of the EGF20 peptide are listed below and green and blue marked masses fit to observed masses.

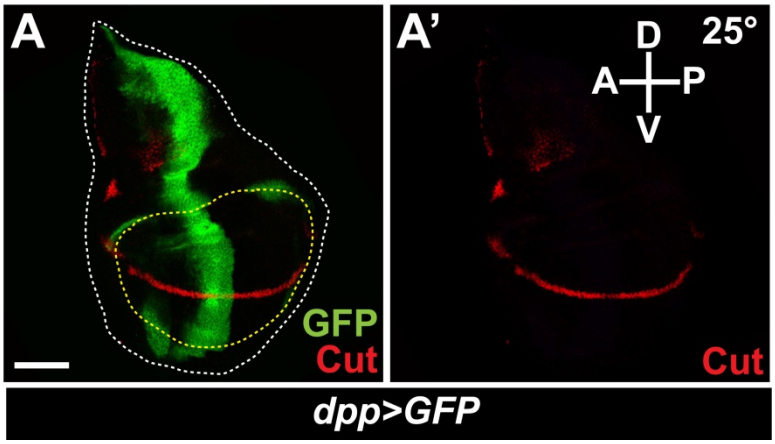



**Figure S4.** Dpp-expression domain and Cut expression at dorsal-ventral boundary in a wild-type third instar wing imaginal disc. (A-A') Third instar wing imaginal discs from larvae raised at 25°C. Staining with α-Cut is shown in red. Green indicates *dpp>GFP*. Anterior is to the left, and dorsal is up. Scale bar is 50 μm.