

Suppl. Table 1. Full-length and Podxl- Δ Mucin sequences

Construct name	Sequence (5' – 3')
Full-length Podxl (WT)	<p>GCCACCATGGCCTTGACCTTCTCCTCCTTTGGGGCATGCTGGGTCCAGGTGGCGAGCCCAGATTACAAGGACGACGATGACAAGGGCGGCG GATCCAGATCTGCGGCCGCCCGTCGCCGTCGCCCTCCAGAAATGCAACCCAGACTACTACGGACTCATCTAACAAAACAGCACCGACTCCAGCA TCCAGTGTACCATCATGGCTACAGATACAGCCCAGCAGAGCACAGTCCCCACTTCCAAGGCCAACGAAATCTTGGCCTCGGTCAAGGGCACCAC CCTTGGTGTATCCAGTGA CTACCGGGGACTACAACCCTGGCTCAGCAAGTCTCAGGCCAGTCAACACTACCGTGGCTAGAGGAGGGGCTCA GGCAACCCTACTACCACCATCGAGAGCCCCAAGAGCACAAAAGTGCAGACACCACTACAGTTGCAACCTCCACAGCCACAGCTAAACCTAACAC CACAAGCAGCCAGAATGGAGCAGAAGATAACAACAACTCTGGGGGGAAAAGCAGCCACAGTGTGACCACAGACCTCACATCCACTAAGGCAGA ACATCTGACGACCCCTCACCTACAAGTCCACTTAGCCCCGACAACCCACTTCGACGCATCCTGTGGCCACCCCAACAAGCTCGGGACATGACCA TCTTATGAAAATTTCAAGCAGTTCAAGCACTGTGGCTATCCCTGGCTACACCTTACAAGCCGGGGATGACCACCACCCTACCGTCATCGTTAT CTCGCAAAGAACTCAACAGACCTCCAGTCAGATGCCAGCCAGCTCTACGGCCCTTCTCCAGGAGACAGTGCAGCCCACGAGCCCGCAACGG CATTGAGAACACCTACCCTGCCAGAGACCATGAGTCCAGCCCCACAGCAGCATCAACTACCCACCGATAACCCAAAACACCTTCTCCACTGTGG CTCATGAGAGTA ACTGGGCAAAGTGTGAGGATCTTGAGACACAGACACAGAGTGAGAAGCAGCTCGTCTGAACCTCACAGGAAAACACCTCTG TGCAGGGGGCGCTTCGGATGAGAAATTGATCTCACTGATATGCCGAGCAGTCAAAGCCACCTTCAACCCGGCCCAAGATAAGTGCGGCATACGG CTGGCATCTGTTCCAGGAAGTCAGACCGTGGTCGTCAAAGAAATCACTATTCACTAAGCTCCCTGCCAAGGATGTGTACGAGCGGCTGAAGGA CAAATGGGATGAACTAAAGGAGGCAGGGGTCAAGTACATGAAGCTAGGGGACCAGGGGCCACCGGAGGAGGCCGAGGACCGCTTACGATGC CCCTCATCATACCATCGTCTGCATGGCATATTCTGCTCCTCGTGGCGGCCCTCTATGGGTGCTGCCACCAGCGCCTCTCCAGAGGAAGGACC AGCAGCGGCTAACAGAGGAGCTGCAGACAGTGGAGAATGGTTACCATGACAACCCAACACTGGAAGTGATGGAGACCTTCTGAGATGCAGG AGAAGAAGGTGGTCAGCCTCAACGGGGAGCTGGGGGACAGCTGGATCGTCCCTCTGGACAACCTGACCAAGGACGACCTGGATGAGGAGGAA GACACACACCTCTAG</p>
Podxl-ΔMucin	<p>GCCACCATGGCCTTGACCTTCTCCTCCTTTGGGGCATGCTGGGTCCAGGTGGCGAGCCCAGATTACAAGGACGACGATGACAAGGGCGGCG GATCCAGATCTGCGGCCGCCCATGAGAGTAACTGGGCAAAGTGTGAGGATCTTGAGACACAGACACAGAGTGAGAAGCAGCTCGTCTGAACCT CACAGGAAACACCCTCTGTGCAGGGGGCGCTTCGGATGAGAAATTGATCTCACTGATATGCCGAGCAGTCAAAGCCACCTTCAACCCGGCCCAA GATAAGTGCGGCATAACGGCTGGCATCTGTTCCAGGAAGTCAGACCGTGGTCGTCAAAGAAATCACTATTCACTAAGCTCCCTGCCAAGGATGT GTACGAGCGGCTGAAGGACAAATGGGATGAACTAAAGGAGGCAGGGGTCAAGTACATGAAGCTAGGGGACCAGGGGCCACCGGAGGAGGCC GAGGACCGCTTACGATGCCCTCATCATACCATCGTCTGCATGGCATATTCTGCTCCTCGTGGCGGCCCTCTATGGGTGCTGCCACCAGCGC CTCTCCAGAGGAAGGACCAGCAGCGGCTAACAGAGGAGCTGCAGACAGTGGAGAATGGTTACCATGACAACCCAACACTGGAAGTGATGGAG ACCTTCTGAGATGCAGGAGAAGAAGGTGGTCAGCCTCAACGGGGAGCTGGGGGACAGCTGGATCGTCCCTCTGGACAACCTGACCAAGGAC GACCTGGATGAGGAGGAAGACACACACCTCTAG</p>

Suppl. Table 2. Summary of PODO447 cross reactivity with control tissues

Tissue	PODO447		Neg Control	
	2µg/ml	20µg/ml	2µg/ml	20µg/ml
Cryosections of A-172 cells Positive control material	Frequent (3-4+)	Frequent (3-4+)	Neg	Neg
Cryosections of MDA-MB-231 <i>PODXL-KO</i> cells Negative control material	Neg	Neg	Neg	Neg
Cryosections of human fetal kidney Ancillary control material	Rare to occasional (1-3+)	Rare (1-3+)	Neg	Neg

The frequency of cells with staining was identified as follows: no staining (Neg), very rare (<1% cells of a particular cell type), rare (1-5% of cells of a particular cell type), rare to occasional (5-25% of cells of a particular cell type), occasional (>25-50% of cells of a particular cell type), occasional to frequent (>59-75% of cells of a particular cell type), frequent (>75-100% of cells of a particular cell type). Intensity of staining was scored as: 1+ = weak, 2+ = moderate, 3+ = strong, 4+ = intense, Neg = Negative. HuIgG1 was used as negative (Neg) control.

Suppl. Table 3. Summary of PODO447 cross-reactivity with normal human tissues.

Tissue	PODO447	Neg Control
Adrenal gland	Very rare (1)	Very rare (1)
Bladder	Neg	Neg
Bone	Neg	Neg
Bone marrow		
Brain		
Cerebellum	Neg	Neg
Cerebral Cortex	Neg	Neg
Breast	Rare to occasional (2)	Neg
Fallopian Tube	Rare to occasional (1)	Neg
GI – Track		
Esophagus	Neg	Neg
Stomach	Rare (2)	Rare (1)
Small Intestine	Neg	Neg
Colon	Neg	Neg
Rectum	Rare (1)	Rare (1)
Head and neck	Rare (2)	Rare (1)
Salivary gland		
Heart	Neg	Neg
Kidney		
Cortex	Occasional (1)	Occasional (1)
Medulla	Rare to occasional (2)	Neg
Liver	Neg	Neg
Lung	Neg	Neg
Ovary	Neg	Neg
Pancreas	Neg	Rare (1)
Parathyroid	Neg	Neg
Peripheral nerve	Neg	Neg
Pituitary gland	Neg	Neg
Placenta	Neg	Neg
Prostate	Neg	Neg
Skeletal muscle	Neg	Neg
Skin	Neg	Neg
Spinal cord	Neg	Neg
Spleen	Neg	Neg
Testis	Neg	Neg
Thymus	Neg	Neg
Thyroid	Neg	Neg
Tonsil	Neg	Neg
Ureter	Neg	Neg

Tissue	PODO447	Neg Control
Uterus		
Cervix	Neg	Neg
Endometrium	Very rare (2)	Neg

The frequency of cells with staining was identified as follows: negative (Neg), very rare (<1% cells of a particular cell type), rare (1-5% of cells of a particular cell type), rare to occasional (5-25% of cells of a particular cell type), occasional (>25-50% of cells of a particular cell type), occasional to frequent (>59-75% of cells of a particular cell type), frequent (>75-100% of cells of a particular cell type). Blood vessel (endothelium) staining is detailed under each individual tissue. The intensity of the staining as indicated in brackets, was scored as: 1+ = weak, 2+ = moderate, 3+ = strong, 4+ = intense. pavalizumab was used as negative (Neg) isotype control.

Suppl. Table 4. Charles River Laboratory summary report of PODO447 cross-reactivity with normal human tissues.

Tissue	PODO447	Neg Control	Pos Control
Brain			
Cerebellum	Neg	Neg	Pos
Cerebral Cortex	Neg	Neg	Pos
Breast	Neg	Neg	Pos
Colon	Neg	Neg	Pos
Fallopian Tube	Rare	Neg	Pos
Epithelium, mucosa	(1-2+)		
GI – Track			
Esophagus	Neg	Neg	Pos
Small Intestine	Rare	Neg	Pos
Epithelium, mucosa	(1-2+)		
Stomach	Neg	Neg	Pos
Heart	Neg	Neg	Pos
Kidney	Very rare	Neg	Pos
Podocytes	(2-3+)		
Liver	Neg	Neg	Pos
Ovary	Neg	Neg	Pos
Skin	Very rare	Neg	Pos
Epithelium, sweat gland	(1+)		

PODO447 staining was assessed as Neg = Negative, Pos = Positive. The frequency of cells with PODO447 positive staining was identified as follows: very rare (<1% cells of a particular cell type), rare (1-5% of cells of a particular cell type), rare to occasional (5-25% of cells of a particular cell type), occasional (>25-50% of cells of a particular cell type), occasional to frequent (>59-75% of cells of a particular cell type), frequent (>75-100% of cells of a particular cell type). Blood vessel (endothelium) staining is detailed under each individual tissue. Frequency modifiers were included to provide the approximate percentage staining of expected numbers of that cell type or tissue element at that location. The intensity of the staining was scored as: 1+ = weak, 2+ = moderate, 3+ = strong, 4+ = intense. HuIgG1 was used as negative (Neg) control, and anti- β_2 -microglobulin as tissue staining (Pos) control.

Suppl. Table 5 Complete list of glycans binding to PODO447.

Median RFU	STD	Glycan Structure	Common Name	Short Name
46864.3	11346.6	GalNAc β 1-3Gal α 1-4Gal β 1-4Glc β -sp3	Gb4, P	Gb4
37815	10288	GalNAc β -sp10	β -GalNAc	bAN-PEG2
37155	6796.1	(GalNAc β -PEG ₂) ₃ - β -DD	(ANb-PEG2) ₃	
26355	3341	GalNAc β -sp3	β -GalNAc	bAN
19964	6979	GalNAc α 1-OSer	TnSer	TnSer
10932	3718	GalNAc β 1-4GlcNAc β -sp2	LacdiNAc	LacdiNAc-C2
5723	1949	GalNAc α 1-3Gal β -sp3	A _{di}	Adi
3390	1440	Fuc α 1-2Gal β -sp3	H _{di}	Hdi
2173	670	GalNAc β 1-3GalNAc β -sp3	para-Fs	para-Fs
1646	708	Fuc α 1-2(3-O-Su)Gal β -sp3	3-O-Su-H _{di}	Hdi3Su
1355.3	633.30	Neu5Gc α 2-6GalNAc α -sp3	Neu5Gc-T _n	Neu5GcTn
1329	31.1	Fuc α 1-2Gal β 1-4GlcNAc β -sp3	H (type 2)	Htype2
1260	481	GalNAc β 1-4GlcNAc β -sp3	LacdiNAc	LacdiNAc
1215	465.1	6-O-Su-Gal β 1-3(6-O-Su)GlcNAc β -sp2	6,6'-di-O-Su-Le ^c	LeC6,6'Su2
1062	373	GlcNAc β 1-3GalNAc α -sp3	core 3	core3
1022	423	Gala1-3Gal β -sp3	B _{di}	Bdi
790	280	GalNAc β 1-4(6-O-Su)GlcNAc β -sp2	6-O-Su-LacdiNAc	LacdiNAc6Su
713	224.5	Gal α 1-3Gal β 1-4GlcNAc β -sp3	Galili (tri)	Galili3
687.7	215.5	GlcNAc β 1-6(Gal β 1-3)GalNAc α -sp3	core 2	core2
602.7	272.9	4,6-O-Su ₂ -Gal β 1-4GlcNAc β -sp3	4',6'-di-O-Su-LN	LN4'6'Su2
493	197	ManNAc β -sp4	β -ManNAc	bMN

Median RFU	STD	Glycan Structure	Common Name	Short Name
450	160.6	6-O-Su-GalNAc β 1-4GlcNAc β -sp3	6'-O-Su-LacdiNAc	LacdiNAc6'Su
367	112	6-O-Su-Gal β 1-4Glc β -sp2	6'-O-Su-Lac	Lac6'Su
364	115.8	Gala1-3(Fuc α 1-2)Gal β -sp5	Btri-C8	Btri-C8
360	114	GlcNAc β 1-6GalNAc α -sp3	core 6	core6
324.3	93.0		α 1-3, α 1-6-mannotriose-BSA	
285	101.2	3,6-O-Su ₂ -Gal β 1-4(6-O-Su)GlcNAc β -sp2	3',6,6'-tri-O-Su-LN	LN3'66'Su3
274.3	98.8	GalNAc β 1-4Gal β 1-4Glc β -sp3	GA ₂ , GgOse ₃	GA2
227.3	71.1	Gal β 1-3(Fuc α 1-4)GlcNAc β -sp3	Le ^a	LeA
220	33	4-O-Su-Gal β 1-4GlcNAc β -sp2	4'-O-Su-LN	LN4'Su-C2
208.3	23.1		Sia-Lex-BSA(NPG1403)	
170.3	27.2	3'-Sialyllactose-ADP-HSA, Isosep60/67	3'-Sialyllactose-HSA	
149	50	6'-O-Su-Gal β 1-4GlcNAc β -sp3	6'-O-Su-LN	LN6'Su
142.7	10.7	Lacto-N-fucopentaose III-ADP-HSA (LNF III-HSA)	Lex-HSA	
116.7	9.9		SO3-Lea-15atom-HSA	
113	21.5	Neu5Ac α 2-8Neu5Ac α 2-8Neu5Ac α 2-3(GalNAc β 1-4)Gal β 1-4Glc β -sp2	GT2	GT2
110	6.4	A-Hexasaccharide-APD-HSA	A-hexa-HSA	
109.7	8.1	GlcNAc β 1-3Gal β 1-3GlcNAc β -sp3	GlcNAc3'Le ^c	GlcNAc3'Le ^c
108.7	13.7	Lacto-N-neotetraose-ADP-HSA (lactosamin)	LNnT-HSA	
104.3	6.5	Lacto-N-tetraose-ADP-HSA, Isosep60/97	LNT-HSA	
103.3	17.5	GlcNAc α 1-3Gal β 1-4GlcNAc β -sp3	GNa3'LN	GNa3'LN
103	5.1	Sialyl-Lea-APD-HSA (19-9 antigen, Sialyl-Lea)	Sia-Lea-HSA	
92.3	8.4	4,6-O-Su ₂ -GalNAc β 1-4-(3-O-Ac)GlcNAc β -sp3	4',6'-di-O-Su-LacdiNAc	3Ac-LacdiNAc4',6'Su2
78.3	21.4	3-O-Su-GalNAc β 1-4GlcNAc β -sp3	3'-O-Su-LacdiNAc	LacdiNAc3'Su

Suppl. Table 6 Clinicopathological characteristics of the epithelial ovarian carcinoma TMA

Parameter	
Histological cell type (n)	
High grade serous	158
Clear cell	25
Endometrioid	27
Mucinous	5
Low grade serous	4
Grade (n)	
1	12
2	23
3	184
FIGO stage (n)	
I	37
II	31
III	130
IV	21
Age	
Range	28 – 90
Median	59
Mean	60 (12.14)