

Figure S1. The visualization map of cumulative confirmed COVID-19 cases.

 $\label{thm:conditional} \textbf{Table S1. Clinical characteristics of patients infected with SARS-CoV-2}$ 

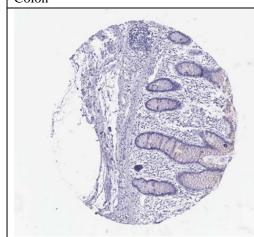
	Patients a	t China	Patients out	side of China	P-value
_	n=601	%	n=1310	%	
Age (years)					
<20	20	3.3	46	3.5	0.080
20-29	72	11.9	64	4.9	0.002
30-39	121	20.1	105	8.0	<0.001
40-49	122	20.2	125	9.5	0.002
50-59	95	15.8	170	12.9	0.078
60-69	101	16.8	169	12.9	0.228
70-79	33	5.5	102	7.8	<0.001
≥80	17	2.8	68	5.2	<0.001
NM	16	2.7	456	34.8	-
Sex					
Male	311	51.7	506	38.6	0.050
Female	280	46.6	361	27.6	0.030
NM	10	1.7	443	33.8	-
Symptoms					
Fever	434	72.2	568	43.3	<0.001
Cough	210	34.9	356	27.1	0.001
Fatigue	49	8.2	23	1.8	<0.001
Muscle pain	12	2.0	12	0.9	0.049
Sore throat	28	4.7	86	6.6	0.102
Headache	15	2.5	55	4.2	0.066
Runny nose	14	2.3	32	2.4	0.881

Notes: P<0.05 was considered statistically significant and bolded.

Table S2. The immunohistochemistry results of ACE2 in multiple organs.

### ACE2

Colon



Female, age 55

Colon (T-67000)

Normal tissue, NOS (M-00100)

Patient id: 634

### Endothelial cells

Staining: Not detected

Intensity: Negative
Quantity: None

Location: None

### Glandular cells

Staining: Medium

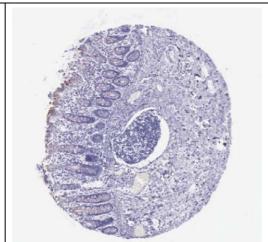
Intensity: Strong
Quantity: <25%

Location: Cytoplasmic/membranous

### Peripheral nerve/ganglion

Staining: Not detected Intensity: Negative

Quantity: None Location: None



Male, age 1

Colon (T-67000)

Normal tissue, NOS (M-00100)

Patient id: 177

### **Endothelial cells**

Staining: Not detected

Intensity: Negative

Quantity: None

Location: None

### Glandular cells

Staining: Medium

Intensity: Strong Quantity: <25%

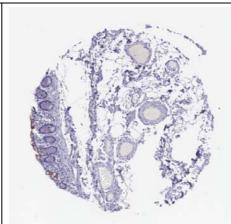
Location: Cytoplasmic/membranous

### Peripheral nerve/ganglion

Staining: Not detected

Intensity: Negative Quantity: None

Location: None



Male, age 54

Colon (T-67000)

Normal tissue, NOS (M-00100)

Patient id: 966

### **Endothelial cells**

Staining: Not detected

Intensity: Negative

Quantity: None

Location: None

### Glandular cells

Staining: Medium

Intensity: Strong

Quantity: <25%

Location: Cytoplasmic/membranous

### Peripheral nerve/ganglion

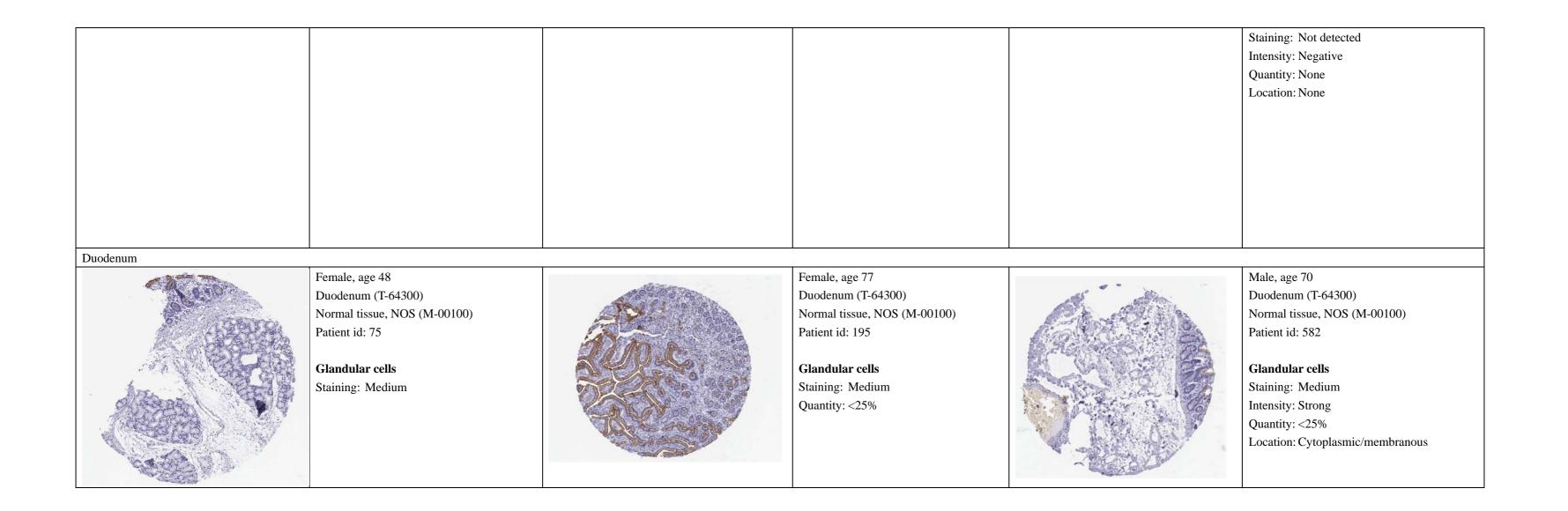
Staining: Not detected

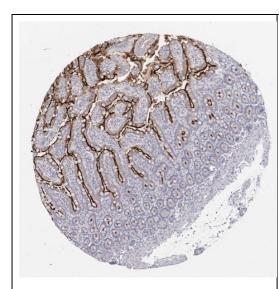
Intensity: Negative

Quantity: None

Location: None

Female, age 61 Peripheral nerve tissue (T-X0500) Colon (T-67000) Normal tissue, NOS (M-00100) Patient id: 1832  Endothelial cells Staining: Not detected Quantity: None Glandular cells Intensity: Strong Location: Cytoplasmic/membranous Peripheral nerve/ganglion Intensity: Negative Location: None	Male, age 14 Colon (T-67000) Normal tissue, NOS (M-00100) Patient id: 1990  Endothelial cells Staining: Not detected Intensity: Negative Location: None Staining: High Quantity: 75%-25% Peripheral nerve/ganglion Staining: Not detected Quantity: None	Male, age 73 Smooth muscle (T-1X300) Colon (T-67000) Normal tissue, NOS (M-00100) Patient id: 3266 Endothelial cells Staining: Not detected Intensity: Negative Quantity: None Location: None Glandular cells Staining: High Intensity: Strong Quantity: 75%-25% Location: Cytoplasmic/membranous Peripheral nerve/ganglion

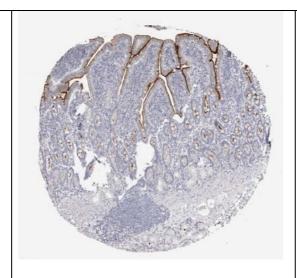




Small intestine, NOS (T-64000) Normal tissue, NOS (M-00100)

Patient id: 3004

Glandular cells
Intensity: Strong



Male, age 50

Duodenum (T-64300)

Pancreas (T-59000)

Adenocarcinoma, NOS (M-81403)

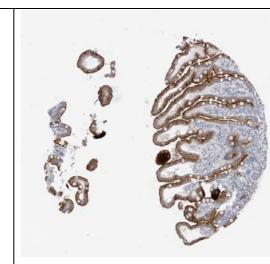
Normal tissue, NOS (M-00100)

Patient id: 1904

Glandular cells

Intensity: Strong

Location: Cytoplasmic/membranous



Male, age 54

Duodenum (T-64300)

Normal tissue, NOS (M-00100)

Patient id: 2562

Glandular cells

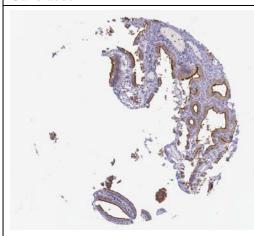
Staining: High

Intensity: Strong

Quantity: >75%

Location: Cytoplasmic/membranous

### Gallbladder



Female, age 44

Gallbladder (T-57000)

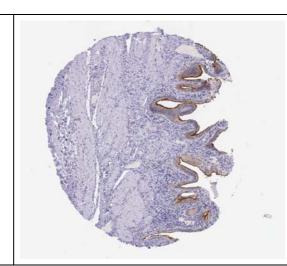
Normal tissue, NOS (M-00100)

Patient id: 112

Glandular cells

Staining: High Intensity:Strong Quantity:75%-25%

Location: Cytoplasmic/membranous



Female, age 76

Gallbladder (T-57000)

Normal tissue, NOS (M-00100)

Patient id: 329

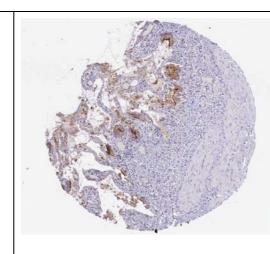
Glandular cells

Staining: High Intensity: Strong

Quantity:75%-25%

Location:

Cytoplasmic/membranous



Male, age 73

Gallbladder (T-57000)

Normal tissue, NOS (M-00100)

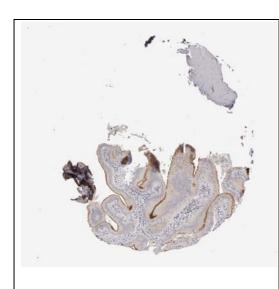
Patient id: 64

Glandular cells

Staining: High

Intensity:Strong

Quantity:75%-25%



Gallbladder (T-57000)

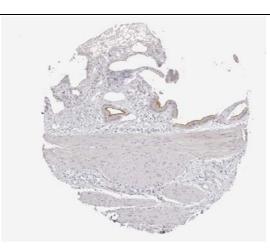
Normal tissue, NOS (M-00100)

Patient id: 3307

### Glandular cells

Staining: High Intensity:Strong Quantity:>75%

Location: Cytoplasmic/membranous



Female, age 64

Gallbladder (T-57000)

Normal tissue, NOS (M-00100)

Patient id: 2025

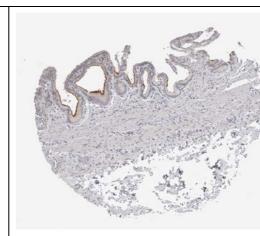
### Glandular cells

Staining: High Intensity: Strong

Quantity:>75%

Location:

Cytoplasmic/membranous



Male, age 38

Gallbladder (T-57000)

Normal tissue, NOS (M-00100)

Patient id: 1999

### Glandular cells

Staining: High

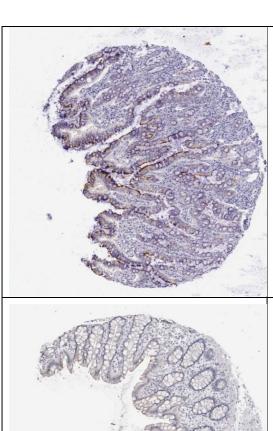
Intensity:Strong

Quantity:>75%

Location: Cytoplasmic/membranous

Heart

Male, age 49 Heart (T-32000) Normal tissue, NOS (M-00100) Patient id: 2278  Myocytes Staining: Not detected Intensity: Negative Quantity: None Location: None  Male, age 54 Heart (T-32000) Normal tissue, NOS (M-00100) Patient id: 3643  Myocytes Staining: Not detected Intensity: Negative Quantity: None Location: None  Male, age 54 Heart (T-32000) Normal tissue, NOS (M-00100) Patient id: 3643  Myocytes Staining: Not detected Intensity: Negative Quantity: None Location: None	H N Pa	Jeant (T-32000) Jormal tissue, NOS (M-00100) Patient id: 2524  Myocytes taining: Medium Intensity: Moderate Quantity: >75% Location: Cytoplasmic/membranous	Female, age 54 Heart (T-32000) Normal tissue, NOS (M-00100) Patient id: 2523  Myocytes Staining: Medium Intensity: Moderate Quantity:>75% Location: Cytoplasmic/membranous	Female, age 54 Heart (T-32000) Normal tissue, NOS (M-00100) Patient id: 2523  Myocytes Staining: Not detected Intensity:Negative Quantity:None Location: None
I Danktone	H N Property of the state of th	Heart (T-32000) Normal tissue, NOS (M-00100) Patient id: 2278  Myocytes taining: Not detected intensity:Negative Quantity:None	Heart (T-32000) Normal tissue, NOS (M-00100) Patient id: 3643  Myocytes Staining: Not detected Intensity:Negative Quantity:None	



Female, age 60 Rectum (T-68000)

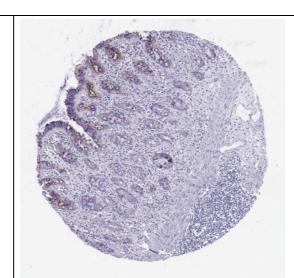
Normal tissue, NOS (M-00100)

Patient id: 1087

Glandular cells

Staining: High Intensity:Strong Quantity:75%-25%

Cytoplasmic/membranous Location:



Male, age 65

Rectum (T-68000)

Normal tissue, NOS (M-00100)

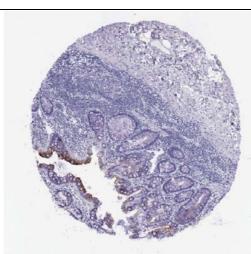
Patient id: 62

Glandular cells

Staining: High Intensity:Strong Quantity:75%-25%

Location:

Cytoplasmic/membranous



Male, age 77

Rectum (T-68000)

Normal tissue, NOS (M-00100)

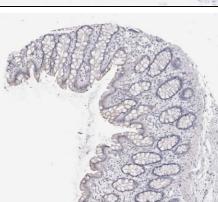
Patient id: 222

Glandular cells

Staining: High Intensity:Strong

Quantity:75%-25%

Cytoplasmic/membranous Location:



Female, age 65

Rectum (T-68000)

Normal tissue, NOS (M-00100)

Patient id: 3243

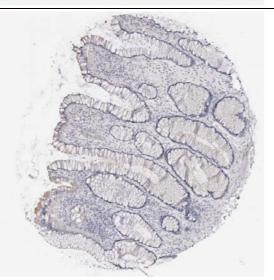
Glandular cells

Staining: Low

Intensity: Moderate

Quantity:<25%

Cytoplasmic/membranous Location:



Male, age 51

Rectum (T-68000)

Normal tissue, NOS (M-00100)

Patient id: 3298

Glandular cells

Staining: Low

Intensity:Moderate

Quantity:<25%

Location:

Cytoplasmic/membranous



Male, age 64

Rectum (T-68000)

Normal tissue, NOS (M-00100)

Patient id: 2953

Glandular cells

Staining: Low

Intensity: Moderate

Quantity:<25%

Cytoplasmic/membranous Location:

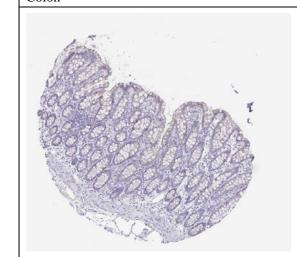
Seminal vesicle		_		
	Male, age 63 Seminal veicle (T-77500) Normal tissue, NOS (M-00100) Patient id: 472  Glandular cells Staining: Low Intensity: Moderate Quantity: <25% Location: Cytoplasmic/membranous		Male, age 69 Seminal veicle (T-77500) Normal tissue, NOS (M-00100) Patient id: 525  Glandular cells Staining: Low Intensity:Moderate Quantity:<25% Location: Cytoplasmic/membranous	Male, age 46 Seminal veicle (T-77500) Normal tissue, NOS (M-00100) Patient id: 3186  Glandular cells Staining: Medium Intensity:Strong Quantity:<25% Location: Cytoplasmic/membranous
	Male, age 51 Seminal veicle (T-77500) Prostate (T-77100) Normal tissue, NOS (M-00100) Patient id: 2053  Glandular cells Staining: Medium Intensity:Strong Quantity:<25% Location: Cytoplasmic/membranous		Male, age 51 Seminal veicle (T-77500) Prostate (T-77100) Normal tissue, NOS (M-00100) Patient id: 1761  Glandular cells Staining: Medium Intensity:Strong Quantity:<25% Location: Cytoplasmic/membranous	

		T	T	
Small intestine				
Silian mesme	Female, age 37 Small intestine (T-65000) Normal tissue, NOS (M-00100) Patient id: 29  Glandular cells Staining: High Intensity:Strong Quantity:75%-25% Location: Cytoplasmic/membranous	Male, age 1 Small intestine (T-65000) Normal tissue, NOS (M-00100) Patient id: 493  Glandular cells Staining: High Intensity:Strong Quantity:75%-25% Location: Cytoplasmic/membranous		Female, age 84 Smooth muscle (T-1X300) Small intestine (T-65000) Normal tissue, NOS (M-00100) Patient id: 2256  Glandular cells Staining: High Intensity:Strong Quantity:>75% Location: Cytoplasmic/membranous
	Male, age 7 Small intestine (T-65000) Normal tissue, NOS (M-00100) Patient id: 1826  Glandular cells Staining: High Intensity:Strong Quantity:>75% Location: Cytoplasmic/membranous	Male, age 41 Small intestine (T-65000) Normal tissue, NOS (M-00100) Patient id: 2226  Glandular cells Staining: High Intensity: Strong Quantity:>75% Location: Cytoplasmic/membranous		

Table S3. The immunohistochemistry results of TMPRSS2 in multiple organs.

### TMPRSS2

Colon



Female, age 84

Colon (T-67000)

Normal tissue, NOS (M-00100)

Patient id: 1958

Endothelial cells

Staining: Not detected

Intensity: Negative

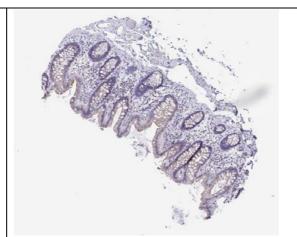
Quantity: None Location: None

Glandular cells

Staining: Not detected

Intensity: Weak Quantity: <25%

Location: Cytoplasmic/membranous



Male, age 84

Colon (T-67000)

Normal tissue, NOS (M-00100)

Patient id: 1960

**Endothelial cells** 

Staining: Not detected

Intensity: Negative

Quantity: None Location: None

Glandular cells

Staining: Not detected

Intensity: Weak

Quantity: <25%

# Duodenum

Female, age 62

Duodenum (T-64300)

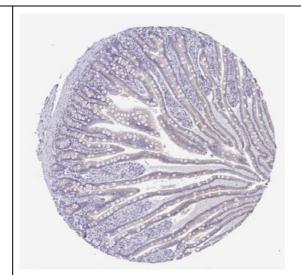
Normal tissue, NOS (M-00100)

Patient id: 3515

### Glandular cells

Staining: Low Intensity: Weak Quantity: 75%-25%

Location: Cytoplasmic/membranous



Female, age 67

Duodenum (T-64300)

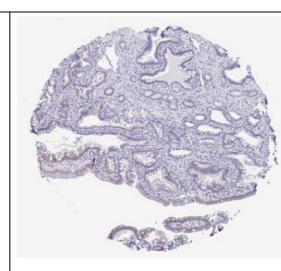
Normal tissue, NOS (M-00100)

Patient id: 3479

### Glandular cells

Staining: Low Intensity: Weak Quantity: 75%-25%

Location: Cytoplasmic/membranous



Male, age 59

Duodenum (T-64300)

Normal tissue, NOS (M-00100)

Patient id: 1961

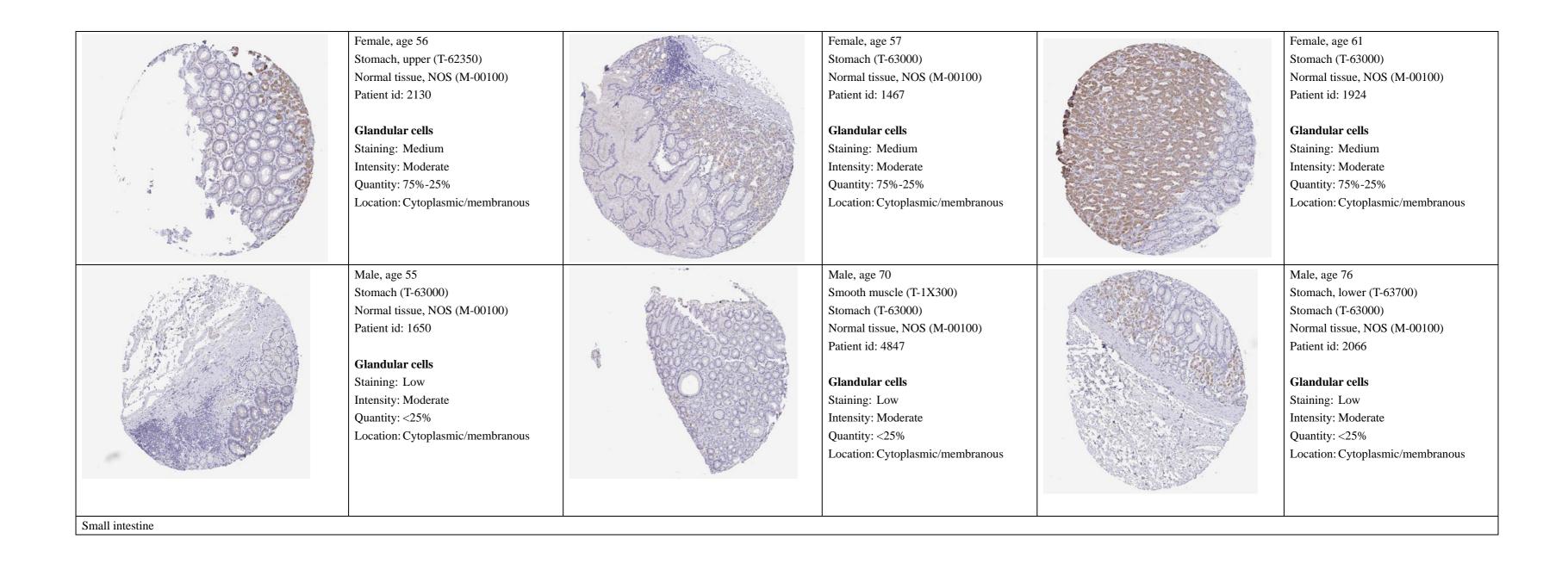
### Glandular cells

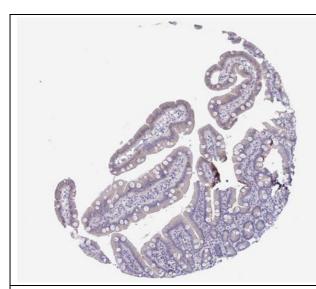
Staining: Low Intensity: Weak

Quantity: 75%-25%

Location: Cytoplasmic/membranous

Stomach





Small intestine (T-65000)

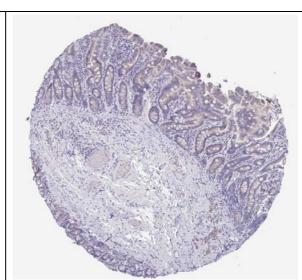
Normal tissue, NOS (M-00100)

Patient id: 3852

### Glandular cells

Staining: Low Intensity: Weak Quantity: 75%-25%

Location: Cytoplasmic/membranous



Male, age 26

Small intestine (T-65000)

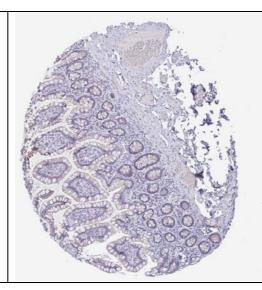
Normal tissue, NOS (M-00100)

Patient id: 3472

### Glandular cells

Staining: Low Intensity: Weak Quantity: 75%-25%

Location: Cytoplasmic/membranous



Male, age 70

Small intestine (T-65000)

Normal tissue, NOS (M-00100)

Patient id: 1919

### Glandular cells

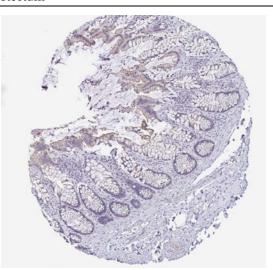
Staining: Low

Intensity: Weak

Quantity: 75%-25%

Location: Cytoplasmic/membranous

### Rectum



Female, age 58

Rectum (T-68000)

Normal tissue, NOS (M-00100)

Patient id: 4489

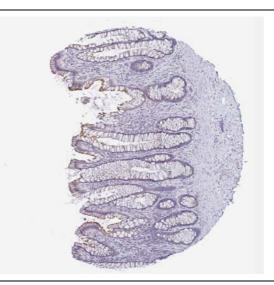
### Glandular cells

Staining: Low

Quantity: <25%

Intensity: Moderate

Location: Cytoplasmic/membranous



Male, age 53

Rectum (T-68000)

Normal tissue, NOS (M-00100)

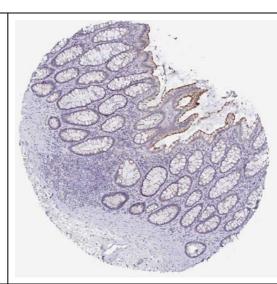
Patient id: 4406

### Glandular cells

Staining: Low

Intensity: Moderate
Quantity: <25%

Location: Cytoplasmic/membranous



Male, age 72

Rectum (T-68000)

Normal tissue, NOS (M-00100)

Patient id: 3074

### Glandular cells

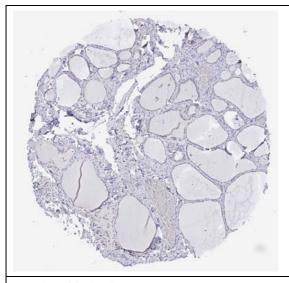
Staining: Low

Intensity: Moderate

Quantity: <25%

Location: Cytoplasmic/membranous

Thyroid gland



Thyroid gland (T-96000)

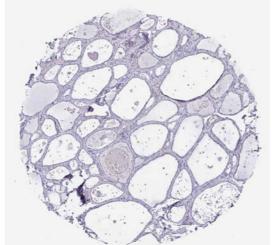
Normal tissue, NOS (M-00100)

Patient id: 1691

### Glandular cells

Staining: Not detected
Intensity: Negative
Quantity: None

Location: None



Female, age 56

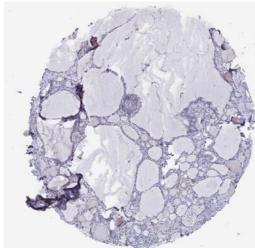
Thyroid gland (T-96000)

Normal tissue, NOS (M-00100)

Patient id: 3239

### Glandular cells

Staining: Not detected Intensity: Negative Quantity: None Location: None



Male, age 56

Thyroid gland (T-96000)

Normal tissue, NOS (M-00100)

Patient id: 1672

### Glandular cells

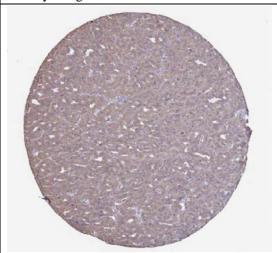
Staining: Not detected

Intensity: Negative

Quantity: None

Location: None

### Parathyroid gland



Female, age 86

Parathyroid gland (T-97000)

Adenoma, NOS (M-84000)

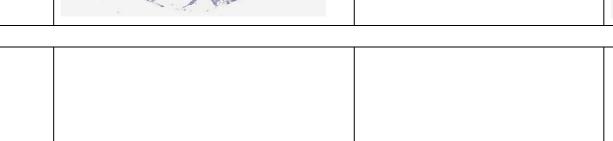
Normal tissue, NOS (M-00100)

Patient id: 3176

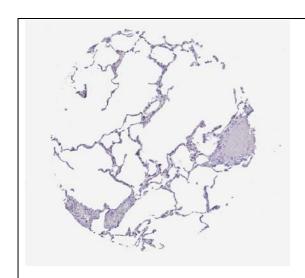
### Glandular cells

Staining: Medium
Intensity: Moderate
Quantity: >75%

Location: Cytoplasmic/membranous



### Lung



Lung (T-28000)

Normal tissue, NOS (M-00100)

Patient id: 1678

Macrophages

Staining: Low

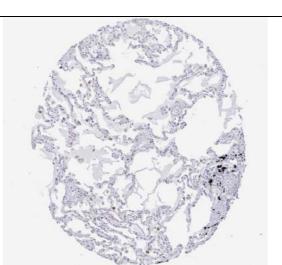
Intensity: Moderate
Quantity: <25%

Location: Cytoplasmic/membranous

Pneumocytes

Staining: Not detected Intensity: Negative Quantity: None

Location: None



Female, age 67 Lung (T-28000)

Cartilage tissue (T-1X700)

Adenocarcinoma, NOS (M-81403)

Normal tissue, NOS (M-00100)

Patient id: 2208

Macrophages

Staining: Low

Intensity: Moderate
Quantity: <25%

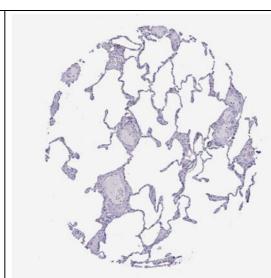
Location: Cytoplasmic/membranous

Pneumocytes

Staining: Not detected

Intensity: Negative Quantity:None

Location: None



Male, age 65

Lung (T-28000)

Normal tissue, NOS (M-00100)

Patient id: 1470

Macrophages

Staining: Low

Intensity: Moderate

Quantity: <25%

Location: Cytoplasmic/membranous

**Pneumocytes** 

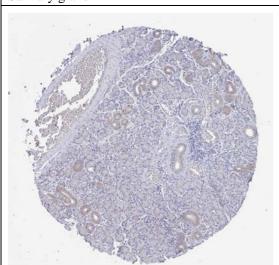
Staining: Not detected

Intensity: Negative

Quantity: None

Location: None

### Salivary gland



Female, age 24

Salivary gland (T-55100)

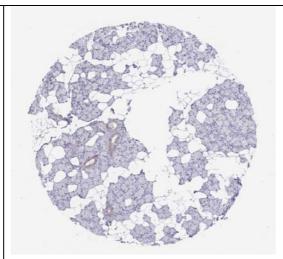
Normal tissue, NOS (M-00100)

Patient id: 2323

Glandular cells

Staining: Low Intensity: Moderate Quantity: <25%

Location: Cytoplasmic/membranous



Female, age 43

Salivary gland (T-55100)

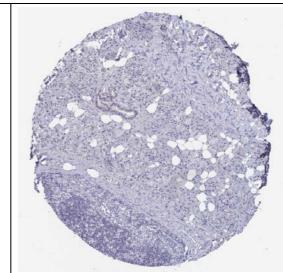
Normal tissue, NOS (M-00100)

Patient id: 2164

Glandular cells

Staining: Low Intensity: Moderate Quantity: <25%

Location: Cytoplasmic/membranous



Male, age 38

Salivary gland (T-55100)

Peripheral nerve tissue (T-X0500)

Normal tissue, NOS (M-00100)

Patient id: 2161

### Glandular cells

Staining: Low

Intensity: Moderate

Quantity: <25%

## Liver

Female, age 54 Liver (T-56000) Normal tissue, NOS (M-00100)

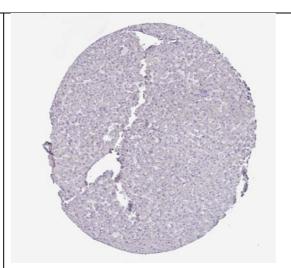
Patient id: 3402

Bile duct cells

Staining: Not detected Intensity: Negative

Quantity: None Location: None Hepatocytes

Staining: Not detected Intensity: Negative Quantity: None Location: None



Female, age 63 Liver (T-56000)

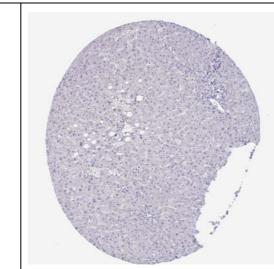
Normal tissue, NOS (M-00100)

Patient id: 3222 **Bile duct cells** 

Staining: Not detected Intensity: Negative

Quantity: None Location: None **Hepatocytes** 

Staining: Not detected Intensity: Negative Quantity: None



Male, age 67 Liver (T-56000)

Normal tissue, NOS (M-00100)

Patient id: 1720

Bile duct cells

Staining: Not detected

Intensity: Negative

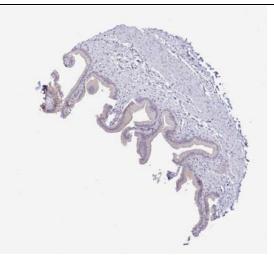
Quantity: None Location: None

Hepatocytes

Staining: Not detected Intensity: Negative Quantity: None

Location: None

### Gallbladder



Female, age 63

Gallbladder (T-57000)

Normal tissue, NOS (M-00100)

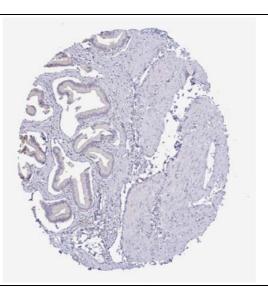
Patient id: 2201

Glandular cells

Staining: Not detected

Intensity: Weak
Quantity: <25%

Location: Cytoplasmic/membranous



Male, age 17

Location: None

Peripheral nerve tissue (T-X0500)

Gallbladder (T-57000)

Normal tissue, NOS (M-00100)

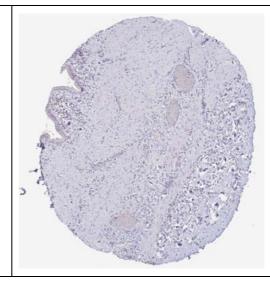
Patient id: 1602

### Glandular cells

Staining: Not detected

Intensity: Weak Quantity: <25%

Location: Cytoplasmic/membranous



Male, age 26

Gallbladder (T-57000)

Normal tissue, NOS (M-00100)

Patient id: 3472

### Glandular cells

Staining: Not detected

Intensity: Weak Quantity: <25%

Pancreas					
	Female, age 74	and the same	Male, age 54		Male, age 57
	Pancreas (T-59000)		Peripheral nerve tissue (T-X0500)		Pancreas (T-59000)
	Normal tissue, NOS (M-00100)		Pancreas (T-59000)		Normal tissue, NOS (M-00100)
	Patient id: 2162		Normal tissue, NOS (M-00100)		Patient id: 4156
	Exocrine glandular cells		Patient id: 2562	A STATE OF THE PARTY OF THE PAR	Exocrine glandular cells
	Staining: Medium		Exocrine glandular cells		Staining: Medium
	Intensity: Strong Quantity: <25%	13	Staining: Medium		Intensity: Strong
	Location: Cytoplasmic/membranous		Intensity: Strong Quantity: <25%		Quantity: <25%
W	Islets of Langerhans		Location: Cytoplasmic/membranous		Location: Cytoplasmic/membranous
	Staining: Not detected	A Company	Islets of Langerhans		Islets of Langerhans
4	Intensity: Negative		Staining: Not detected	Vital Section 1	Staining: Not detected
	Quantity: None		Intensity: Negative Quantity:None		Intensity: Negative Quantity:None
	Location: None		Location: None		Location: None
Epididymis					
	Male, age 25		Male, age 29		Male, age 31
and the second second	Epididymis (T-79100)	A P In	Epididymis, spermatic cord, NOS (T-		Epididymis, spermatic cord, NOS (T-
	Normal tissue, NOS (M-00100)		79000)		79000)
	Patient id: 4972		Epididymis (T-79100)		Epididymis (T-79100)
			Peripheral nerve tissue (T-X0500)		Normal tissue, NOS (M-00100)
11 MY 31	Glandular cells	Sign of the same o	Normal tissue, NOS (M-00100)		Patient id: 4796
	Staining: Medium		Patient id: 4845		
	Intensity: Strong				Glandular cells
	Quantity: <25%		Glandular cells		Staining: Medium
	Location: Cytoplasmic/membranous		Staining: Medium	West - William	Intensity: Strong
			Intensity: Strong		Quantity: <25%
			Quantity: <25%	50.5	Location: Cytoplasmic/membranous
			Location: Cytoplasmic/membranous		

### Seminal vesicle

Male, age 60

Seminal veicle (T-77500)

Normal tissue, NOS (M-00100)

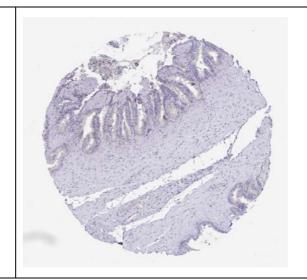
Patient id: 4343

### Glandular cells

Staining: Low Intensity: Weak

Quantity: 75%-25%

Location: Cytoplasmic/membranous



Male, age 60

Seminal veicle (T-77500)

Normal tissue, NOS (M-00100)

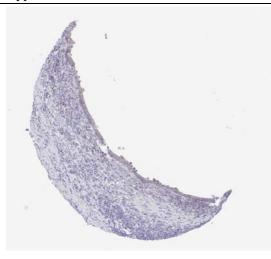
Patient id: 4528

### Glandular cells

Staining: Low Intensity: Weak Quantity: 75%-25%

Location: Cytoplasmic/membranous

### Appendix



Female, age 56

Appendix (T-66000)

Normal tissue, NOS (M-00100)

Patient id: 4548

Glandular cells

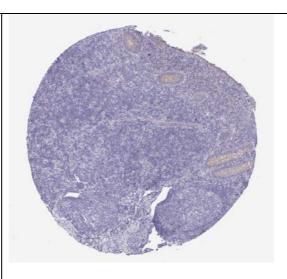
Staining: Low Intensity: Weak Quantity: >75%

Location: Cytoplasmic/membranous

Lymphoid tissue

Staining: Not detected Intensity: Negative

Quantity: None



Male, age 18

Appendix (T-66000)

Normal tissue, NOS (M-00100)

Patient id: 4394

### Glandular cells

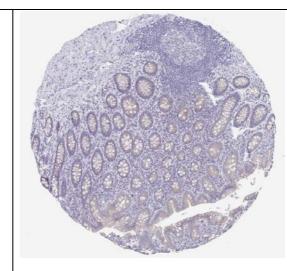
Staining: Low Intensity: Weak Quantity: >75%

Location: Cytoplasmic/membranous

Lymphoid tissue

Staining: Not detected Intensity: Negative

Quantity: None



Male, age 71

Appendix (T-66000)

Normal tissue, NOS (M-00100)

Patient id: 1898

### Glandular cells

Staining: Low Intensity: Weak

Quantity: >75%

Location: Cytoplasmic/membranous

### Lymphoid tissue

Staining: Not detected Intensity: Negative

Quantity: None

	Location: None		Location: None	Location: None
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