

Supplementary Table 1: A. Characteristics and outcomes of patients from which biopsies were collected. Values are number of patients with characteristic unless otherwise indicated. N, number ; F, female ; M, male. Abdominal pain intensity was scored according to: 0: absent 1: no impact on daily life 2: reducing some daily activities 3: greatly reducing daily activities 4: patient confined to bed. Pain frequency was classified as: 0: absent 1: rare (1day/week) 2: occasional (2-3 days/week) 3: frequent (4-6 days/week) 4: very frequent (7days/week). **B.** Characteristics of control patients sampled during resection of colon cancer, tissue samples were taken from non-pathological margins and were used to assess enteric neuron activity.

A

	Control patients	IBS patients		
		IBS-D	IBS-C	IBS-M
Number (F/M)	27 (9/18)	30 (22/8)	23 (19/4)	19 (14/5)
Age (range)	54 (25/74)	53 (18/75)	50 (25/70)	47 (24/74)
Pain intensity (range)	0 (0/0)	2.1 (1/3) N.D: 12	1.9 (1/3) N.D: 5	1.9 (0/3) N.D:8
Pain frequency (range)	0 (0/0)	2.6 (1/4) N.D: 12	2.8 (1/4) N.D: 5	2.4 (0/4) N.D: 8

B

Control patients	
Number (F/H)	15 (7/8)
Age (range)	53 (33/66)

Supplementary Table 2: Sequences of oligonucleotides used for RT-PCR experiments. The human gene symbols, oligonucleotide sequences, amplicon size in base pairs (bp), individual or multiple splice variants targeted by each primer pair and respective NCBI accession numbers are indicated for each gene: *PRSS1*, protease serine 1 (cationic trypsin); *PRSS2*, protease serine 2 (anionic trypsin); *PRSS3*, protease serine 3, transcript variants 1 (trypsinogen IV), 2 (mesotrypsin), 3 (unknown protein) and 4 (trypsinogen 5); *TPSAB1*, tryptase alpha/beta-1; *TPSB2*, tryptase beta-2; *TPSD1*, tryptase delta-1; *HPRT1*, hypoxanthine phosphoribosyltransferase 1.

Transcript	Sequences (5'-3')	Amplicon (bp)	Splice variant	Accession number
<i>PRSS1</i>	CCACCCCAATACGACAGGAAG GCGCCAGAGCTCGCAGT	171		NM_002769
<i>PRSS2</i>	CCAAATACAACAGCCGG AGTCGGCACCAGA ACTCAGA	171	1	NM_001303414
			2	NM_002770
<i>PRSS3</i>	ACCCTAAATACAACAGGGAC AGCACCAAAGCTCAGAGT	170	1	NM_007343
			2	NM_002771
			3	NM_001197097
			4	NM_001197098
<i>PRSS3_v1/3</i>	CTTCTGGGTGGACGCACTT ATACCACCCACTGTTGCTG	202 330	1	NM_007343
			3	NM_001197097
<i>PRSS3_v2</i>	ATCCTTGCCTTTGTGGGAGC CTCCAGGCCTGTTCTTCCAG	667	2	NM_002771
<i>PRSS3_v4</i>	TTCCGACTCGCATGGGACC GCCAGAATTCAGGGACACCT	122	4	NM_001197098
<i>TPSAB1/TPSB2</i>	CTGGCATCTACACCCGTG TGGGTAGGAAGCAGTGGT	143		NM_003294
				NM_024164
<i>TPSD1</i>	TGCACCCACAGTTCTACATC GTGATATTCCGCGTTGCAAAG	254		NM_012217
<i>HPRT1</i>	TGGGAGGCCATCACATTGT TCCAGCAGGTCAGCAAAGAA	70		NM_000194
<i>HPRT1</i>	AGGACTGAACGTCTTGCTCG ATCCAACACTTCGTGGGGTC	388		NM_000194