

---

# List of Contents

<b>1</b>	<b>Introduction . . . . .</b>	<b>1</b>
1.1	The Enteric Nervous System . . . . .	1
1.2	Ganglionated Enteric Plexuses . . . . .	3
1.2.1	Myenteric Plexus . . . . .	3
1.2.2	Submucosal Plexuses . . . . .	4
1.3	Non-Ganglionated Enteric Plexuses . . . . .	5
1.4	Morphological Classifications of Enteric Neurons . . . . .	6
1.4.1	Dogiel's Classification . . . . .	6
1.4.1.1	Type I Neurons . . . . .	7
1.4.1.2	Type II Neurons . . . . .	10
1.4.1.3	Type III Neurons . . . . .	10
1.4.2	80 Years After Dogiel . . . . .	12
1.4.3	Stach's Classification in the Pig: General Remarks . . . . .	14
1.4.4	Classification in the Guinea Pig . . . . .	16
1.4.5	Classifications in Other Species . . . . .	17
<b>2</b>	<b>Material and Methods . . . . .</b>	<b>18</b>
2.1	Immunohistochemistry . . . . .	19
2.2	Immunocytochemistry . . . . .	21
2.3	Double Labelling Post-Mortem Tracing . . . . .	21
2.4	Image Acquisition of Immunofluorescent Specimens, Morphometry . . . . .	22
2.5	Three-Dimensional Reconstructions . . . . .	22
<b>3</b>	<b>Chemical Coding of Stach's Neuron Types in the Pig . . . . .</b>	<b>23</b>
3.1	Preliminary Note: Cholinergic and Nitrergic Neurons . . . . .	23
3.2	Type I Neurons . . . . .	24
3.3	Type II Neurons . . . . .	26
3.4	Type III Neurons . . . . .	29
3.5	Type IV Neurons . . . . .	31
3.6	Type V Neurons . . . . .	34
3.7	Type VI Neurons . . . . .	41
3.8	Type VII Neurons . . . . .	43
3.9	Dendritic Type II Neurons, Mini Neurons, Giant Neurons . . . . .	45
<b>4</b>	<b>Morphological Neuron Types and Their Chemical Coding in the Human . . .</b>	<b>46</b>
4.1	Nomenclature Used for Human Enteric Neurons . . . . .	46
4.2	Type II Neurons . . . . .	48
4.3	Stubby (Type I) Neurons . . . . .	50

---

4.4	Spiny (Type I) Neurons . . . . .	53
4.5	Type V Neurons . . . . .	59
4.6	Type III Neurons . . . . .	61
4.7	Dendritic Type II Neurons . . . . .	63
4.8	Spiny Neurons with Main Dendrites or Human Type VII Neurons? . . . . .	63
5	<b>Discussion</b> . . . . .	64
5.1	What Does NF Immunohistochemistry Achieve? . . . . .	64
5.2	General Remarks on Equivalent Neurons of Different Species . . . . .	66
5.3	Putative Functional Categories of Human Enteric Neurons . . . . .	67
5.3.1	Human Intrinsic Primary Afferent Neurons . . . . .	67
5.3.2	Human Interneurons . . . . .	68
5.3.3	Human Muscle Motor Neurons . . . . .	69
5.3.4	Other Human Effector Neurons . . . . .	70
5.4	Plasticity . . . . .	70
6	<b>Summary</b> . . . . .	73
	<b>References</b> . . . . .	74
	<b>Subject Index</b> . . . . .	93

<http://www.springer.com/978-3-540-32871-1>

Structure of Enteric Neurons

Brehmer, A.

2006, XI, 94 p. 24 illus., 2 illus. in color., Softcover

ISBN: 978-3-540-32871-1