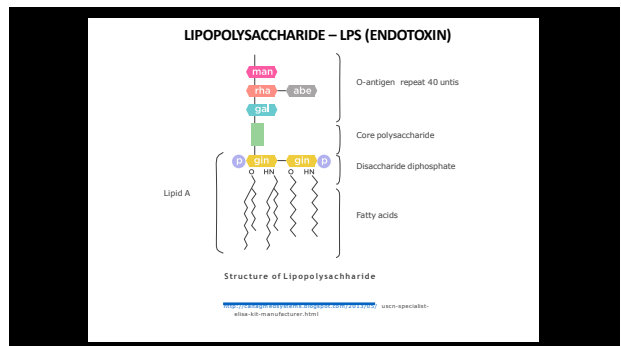
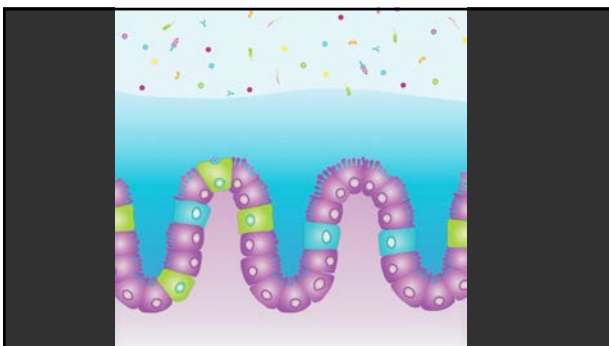


### Almost every known neurotransmitter can be found in the ENS

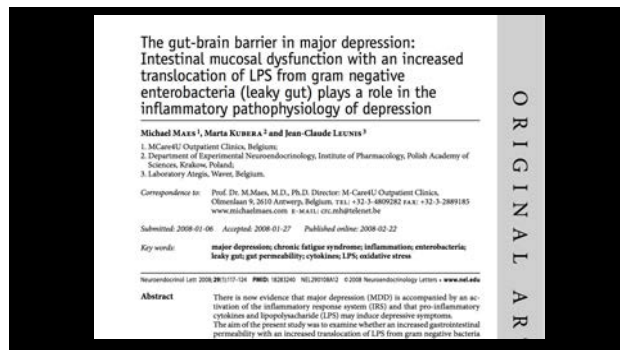
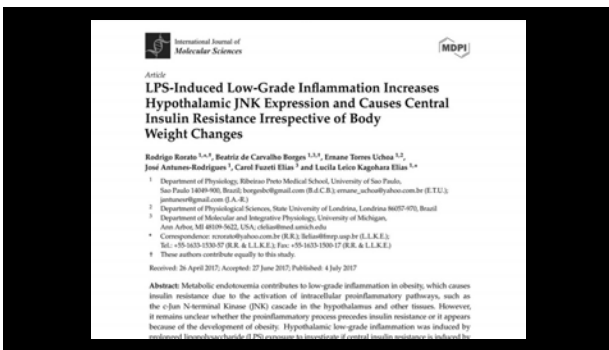
<p><b>Biogenic amines</b></p> <ul style="list-style-type: none"> <li>Acetylcholine</li> <li>Norepinephrine</li> <li>Serotonin (5-HT)</li> </ul> <p><b>Amino Acids</b></p> <ul style="list-style-type: none"> <li>γ-Aminobutyric Acid</li> <li>Glutamine</li> </ul> <p><b>Purines</b></p> <ul style="list-style-type: none"> <li>Adenosine triphosphate</li> <li>ATP</li> <li>Adenosine</li> </ul> <p><b>Gases</b></p> <ul style="list-style-type: none"> <li>Nitric oxide</li> <li>Carbon monoxide</li> <li>Hydrogen sulfide</li> </ul>	<p><b>Neuroactive peptides</b></p> <ul style="list-style-type: none"> <li>Calcitonin gene-related peptide (CGRP)</li> <li>Cocaine and Amphetamine Regulated Transcript (CART)</li> <li>Cholecystokinin (CCK)</li> <li>Dynorphin</li> <li>Endorphins</li> <li>Endothelin</li> <li>Enkephalins</li> <li>Galatin</li> <li>Gastrin releasing peptide</li> <li>Neuropeptide Y (NPY)</li> <li>Neurotensin</li> <li>Nociceptin (Orphanin FQ)</li> <li>Peptide YY</li> <li>Pituitary adenylyl cyclase activating peptide (PACAP)</li> <li>Somatostatin</li> <li>Tachykinins (Substance P)</li> <li>Thyrotropin-releasing hormone</li> <li>Vasoactive intestinal polypeptide (VIP)</li> </ul>
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Key excitatory transmitters  
Key inhibitory transmitters





*"According to this conceptualization, the inflammatory response increases gut permeability and exposure to endotoxins or other bacterial products and induces  $\alpha$ -synuclein aggregations, which in turn propagate to the CNS via the vagus nerve."*



ORIGINAL

