Title:	Immuno-modulatory role of porins: Host immune responses, signaling mechanisms and vaccine potential
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Abstract:	The outer membrane of gram-negative bacteria allows the bacteria to survive amidst harsh conditions and is crucial for its interaction with the environment. The outer membrane consists of proteins and LPS. The protein content of the outer membrane contributes up to 50 % of the total mass of the whole bacterium. Further, about one-third of the genome of gram-negative bacteria encodes for outer membrane proteins. These proteins are beta barrel in structure and perform various roles apart from providing structural stability. They can help in transport of substances, signal transduction, adherence and invasion, enzymatic reactions, as well as act as PAMPs (pathogen associated molecular patterns) which can be recognized by PRRs (pattern recognition receptors) present on host immune cells. Porins are a class of outer membrane proteins that aid in transport of substances across the outer membrane. This review highlights the role of porins in various host immuno-modulatory processes, the signaling mechanisms by which they activate host immune cells and their use as vaccines against various gram-negative bacterial infections.
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