

1. Record Nr.	UNINA9910484707903321
Titolo	The collectin protein family and its multiple biological activities // edited by Uday Kishore, Taruna Madan, Robert B. Sim
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-67048-1
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XII, 244 p. 50 illus., 45 illus. in color.)
Disciplina	616.079
Soggetti	Natural immunity Lectines Immunitat Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1. Discovering the role of mannose-binding lectin (MBL) in innate immunity: the early history -- 2. Mannose-binding lectin in human health and disease -- 3. The activities of MASPs, complement proteases associated with collectins and ficolins -- 4. Structures of the MASPs and comparison with C1r and C1s -- 5. Biological activities of SP-A and SP-D against extracellular and intracellular pathogens -- 6. Surfactant protein D: A Therapeutic Target for Allergic Airway Diseases -- 7. SP-D in immune surveillance against cancer -- 8. Testicular immune privilege -- a recently discovered domain of Collectins -- 9. Role of Collectins in Pregnancy -- 10. Bovine Collectins: Role in Health and Disease -- .
Sommario/riassunto	The topic of this book, Collectins, is a family of proteins whose major function is in innate immunity, where Collectins act as pattern recognition receptors (PRRs). In general they recognize targets such as microbial surfaces and apoptotic cells, and once bound to a target, Collectins promote the clearance of microorganisms and damaged host tissue. New cell-surface proteins and glycoproteins, which act as Collectin receptors, are currently being identified. Some Collectins, particularly MBL, activate the complement system, which enhances the ability of antibodies to fight pathogens, via three MBL-associated

proteases, the MASPs. Additionally, recent research has begun to show wider-ranging activities of Collectins, such as: · Their role in metabolism, and therefore their involvement in lifestyle diseases such as obesity and cardiovascular disease. · Their ability to modulate the adaptive immune response, as well as to recognize and trigger apoptosis of cancer cells, which makes them effective in the annihilation of cancer cells with multiple mutations. · The regulation of their expression by gonadal steroid hormones implicates them with critical roles in both male and female fertility. · Altered levels of Collectins have been associated with various autoimmune diseases. This book brings together current knowledge of the structure, functions and biological activities of Collectins, to describe their integral role in human health.

---