1. Record Nr. UNINA9911019437303321

Titolo	Molecular clocks and light signalling / / [editors, Derek J. Chadwick and Jamie A. Goode]
Pubbl/distr/stampa	Chichester, UK ; ; Hoboken, NJ, : Wiley, 2003
ISBN	9786610269075 9781280269073 1280269073 9780470090824 0470090820 9780470090831 0470090839
Descrizione fisica	1 online resource (308 p.)
Collana	Novartis Foundation symposium ; ; 253
Altri autori (Persone)	ChadwickDerek GoodeJamie
Disciplina	571.4 571.7/7 571.77
Soggetti	Circadian rhythms Photobiochemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Held at the Novartis Foundation, London, 3-5 September 2002"--p. v.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	MOLECULAR CLOCKS AND LIGHT SIGNALLING; Contents; Participants; Chair's introduction; Non-rod, non-cone photoreception in rodents and teleost fish; Discussion; Cryptochromes and inner retinal non-visual irradiance detection; Discussion; General discussion I; Light signalling in Cryptochrome-deficient mice; Discussion; Circadian light input in plants, flies, and mammals; Discussion; Orphan nuclear receptors, molecular clockwork, and the entrainment of peripheral oscillators; Discussion; General discussion; SCN: ringmaster of the circadian circus or conductor of the circadian orchestra? DiscussionOn the communication pathways between the central pacemaker and peripheral oscillators; Discussion; Central and peripheral circadian oscillators in Drosophila; Discussion; Integration of

molecular rhythms in mammalian circadian system; Circadian transcriptional output in the SCN and liver of the mouse; Discussion; The molecular workings of the Neurospora biological clock; Discussion; Expression of clock gene products in the suprachiasmatic nucleus in relation to circadian behaviour; Discussion; Circadian rhythms in Drosophila; Discussion
The role of phosphorylation and degradation of hPer proteins oscillation in normal human fibroblastsDiscussion; Regulation of daily locomotor activity and sleep by hypothalamic EGF receptor signalling; Discussion; CK1 and GSK-3 in the Drosophila and mammalian circadian clock; Discussion; Final general discussion; Closing remarks; Index of contributors; Subject index

Sommario/riassunto

The ability at the molecular level to keep track of time is a property shared by organisms ranging from the simplest unicells to humans. The primary feature of these biological clocks is their ability to entrain to environmental stimuli. The dominant stimulus comes from environmental light cues, which requires the existence of photopigments sensitive to light. The exact identity of the molecules involved in circadian photoreception has remained elusive. The classical view of the circadian system is of diverse physiological rhythms regulated by a centralized clock structure. This book present