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Sommario/riassunto	The endoplasmic reticulum (ER) is a manufacturing unit in eukaryotic cells required for the synthesis of proteins, lipids, metabolites and hormones. Besides supporting cellular signalling networks by its anabolic function, the ER on its own or in communication with other organelles directly initiates signalling processes of physiological significance. Based on the intimate and immediate involvement in stress signalling the ER is considered as sensory organelle on which cells strongly rely to effectively translate environmental cues into adaptive stress responses. The transcellular distribution of the ER providing comprehensive cell-to-cell connections in multicellular organisms probably allows a concerted action of cell alliances and tissue areas towards environmental constraints. At the cellular level, stress adaptation correlates with the capability of the ER machinery to synthesise proteins participating in stress signalling as well as in the activation of ER membrane localised proteins to start cell-protective signalling processes. Importantly, depending on the stress insult, the

ER either supports protective strategies or initiates cell death programmes. Recent, genetic, molecular and cell biological studies have drawn an initial picture of underlying signalling events activated by ER membrane localised proteins. In this Research Topic, we will provide a platform for articles describing research on ER morphology and metabolism with a focus on stress translation. The Research Topic will be sub-divided into the following sections: 1. ER in stress signalling and adaptation; 2. ER structure and biosynthetic functions; 3. Regulation of protein processing; 4. Regulation of programmed cell death.
