Stomata are structures in plant epidermis which regulate contact between inner and outer environment of the plant by mediating their stomatal aperture. Many inner and outer signals contribute to the ontogenesis of the stomatal pattern.

Guard cells undergo significant change of volume and surface during stomatal movement. This change of surface must be compensated by intracellular trafficking of membrane material because biological membrane has limited elasticity. Most of this trafficking takes place between plasma membrane and endosomal compartments.

Complex exocyst is protein complex that ensures proper targeting of secretory vesicles to their destination on the plasma membrane. Function of this complex is essential for many cellular processes that require precise targeting of secretion.

Mutation in gene Exo70B1 causes different development of the stomatal pattern. Plants with mutated Exo70B1 differ in stomatal size depending on the cultivation conditions more than wild type plant. Protein EXO70B1 is also directly involved in stomatal dynamics because mutants exo70B1 have retarded stomatal opening in response to light. This direct connection can be observed on the fluorescently labeled protein EXOB1 which significantly changes its localization during stomatal movements. None of these observed phenotypes is caused by accumulation of salicylic acid, as the double mutant exo70B1/sid2 behaves identically as single mutant exo70B1.

Proteins EXO70E1 and EXO70E2 have distinctive function neither during stomatal development nor during stomatal dynamics. Mutants exo70E1, exo70E2 and their double mutant have no observable change in stomatal phenotype.

Mutant sid2 has shown dwarfed grow under the high light conditions. This is caused by elevated generation of ROS in cells.