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| **Developmental Process** | **Role of Auxin** | **Role of Cytokinin** | **References** |
| Apical Bud Dominance | Promotes cell elongation in the shoot apex, inhibiting bud outgrowth below the apex | Stimulates lateral bud growth when levels are high relative to auxin | (Turchi et al., 2015; Zhang et al., 2020) |
| Root Initiation and Development | Induces root formation and controls root architecture | Promotes root hair development and lateral root initiation | (Wu et al., 2021a) |
| Shoot Elongation | Stimulates cell elongation in the stem | Inhibits shoot elongation when in high concentration relative to auxin | (Hurny et al., 2020) |
| Leaf Formation | Regulates leaf primordia initiation and growth | Influences leaf morphogenesis and senescence | (Wu et al., 2021b) |
| Flowering | Triggers the transition to flowering in some plants | Can delay flowering, involved in the regulation of flowering time | (Zhao et al., 2010) |
| Fruit Development | Influences fruit set and growth | Involved in fruit development and ripening processes | (Grosskinsky and Petrasek, 2019) |
| Vascular Tissue Differentiation | Promotes xylem differentiation | Promotes phloem differentiation and maintenance | (Rong et al., 2022) |
| Response to Gravity (Gravitropism) | Controls the direction of root growth in response to gravity | Involved in the gravitropic response, balances auxin action | (Nakamura et al., 2019) |
| Response to Light (Phototropism) | Mediates phototropic bending of stems towards light source | Influences phototropic responses, sometimes counteracting auxin | (Fankhauser and Chory, 1997; Zhu et al., 2008) |
| Wound Healing and Tissue Repair | Promotes cell division and regeneration at wound sites | Stimulates cell division and proliferation in healing tissues | (Pawełkowicz et al., 2024) |
| Senescence and Plant Aging | Regulates the aging process and senescence of plant organs | Can delay senescence when in higher concentration | (Glanz-Idan et al., 2022) |

**Supplement Table 1**．The roles of various growth hormones during the development of the vascular cambium.

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