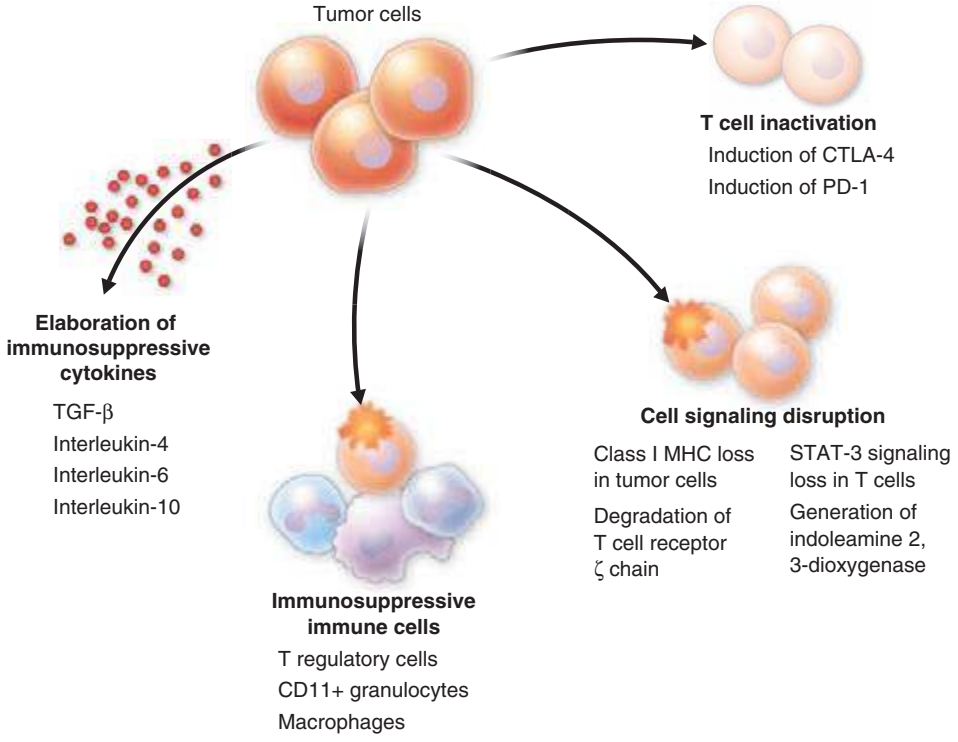

FIGURE 102e-13 **Tumor-host interactions** that suppress the immune response to the tumor.

targeting PD-1 or PDL-1 have shown activity against melanoma, RCC, and lung cancer and continue to be evaluated against other malignancies as well. Combination approaches targeting more than one protein or involving other anticancer approaches (targeted agents, chemotherapy, radiation therapy) are also being explored and have shown promise in early studies. An important aspect of these approaches is balancing sufficient release of the negative control of the immune response to allow immune-mediated attack on the tumors while not allowing too much release and inducing severe autoimmune effects (such as against skin, thyroid, pituitary gland, or the gastrointestinal tract).

SUMMARY

The explosion of information on tumor cell biology, metastasis, and tumor-host interactions (including angiogenesis and immune evasion by tumors) has ushered in a new era of rational targeted therapy for cancer. Furthermore, it has become clear that specific molecular factors detected in individual tumors (specific gene mutations, gene-expression profiles, microRNA expression, overexpression of specific proteins) can be used to tailor therapy and maximize antitumor effects.

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