

¹⁶¹Tb-FAPI for Soft Tissue Tumors

Fibroblast activation protein (FAP) is highly expressed in many solid malignancies, with particularly high expression in several sarcoma subtypes. FAP inhibitor (FAPI) PET enables non-invasive assessment of target expression and provides the foundation for a theranostic approach using FAP-targeted radiopharmaceutical therapy.

Clinical experience with radiolabeled FAPI compounds, including ⁹⁰Y- and ¹⁶¹Tb-FAPI, has established the feasibility of FAP-targeted therapy in patients with advanced cancer, particularly sarcoma. FAPI PET can identify suitable candidates, while post-therapy imaging and dosimetry characterize tumor targeting and radiation exposure. Initial experience supports a favorable safety profile and provides early evidence of disease control in selected patients with advanced sarcoma.

FAP-directed theranostics in sarcoma is feasible using ¹⁶¹Tb-FAPI. Ongoing development aims to optimize targeting compounds, radionuclides, dosimetry, and patient selection. Prospective trials will define its future role in sarcoma treatment.