Integrating ctDNA-based *ESR1*m monitoring during 1L into clinical practice for patients with HR+/HER2– advanced breast cancer*

Unmet medical need

***ESR1*m can emerge during 1L AI therapy. ctDNA-based monitoring every ~3 months after ≥6 months of 1L AI + CDK4/6i enables early detection of emergent *ESR1*m, which may support a timely intervention in the hope of extending the duration of 1L treatment for HR+/HER2– aBC[1]**

Implementation best practices

To aid adoption of ctDNA-based *ESR1*m monitoring, coordination across a multidisciplinary team should be leveraged to standardize workflows, minimize operational burden, and ensure actionable results are translated efficiently into patient care[2–4]

Implementation workflow: A topline view

Pink indicates additional steps required for *ESR1*m monitoring

1 PREPARATION

Establish a clear, organizationally aligned *ESR1*m testing workflow to ensure all eligible patients are monitored regularly[2–5]

Institutional alignment + Operationalize + Education

2 TESTING

Embed *ESR1*m testing into routine blood work schedules and EMRs to reduce burden for patients and HCPs[1,6–8]

Routine blood work

Add a ctDNA-based *ESR1*m test to routine blood work orders (typically only 1–2 additional blood tubes)[1]

Repeats every ~3 months†

3 MONITORING AND FOLLOW-UP

- Coordinate timely patient follow-up[9]
- Continue longitudinal monitoring per institutional practice[1]
- Maintain routine imaging schedules according to SOP, as progressive disease can occur regardless of *ESR1*m status[1,10,11]

Integrate EMR for test ordering and results‡

*ESR1*m detected

- Evaluate clinical progression status
- Coordinate timely patient follow-up and consider treatment modification when clinically appropriate

*ESR1*m not detected

- Continue longitudinal monitoring per institutional practice

SEE NEXT PAGE FOR IMPLEMENTATION CHECKLIST

Implementation checklist

Pink indicates additional steps required for *ESR1*m monitoring

1 PREPARATION

Institutional alignment*

- **Align with stakeholders on *ESR1*m testing rationale, logistics and vendor**[3,4]
- **Appoint a clinical champion** to lead implementation, troubleshooting, ongoing staff education, track progress and keep workflows moving[5]

Operationalize

- **Establish SOPs** for sample collection, phlebotomy coordination, ordering and result routing to minimize operational burden and turnaround times[4,12]

Education

- **Provide role-specific training** on workflows and result actionability aligning with clinical guidelines[4]
- **Proactively counsel patients on the purpose of *ESR1*m monitoring**, result implications, and how results will be communicated[1,4*]

2 TESTING

Reduce patient and multidisciplinary team testing burden*

- **Add a ctDNA-based *ESR1*m test** to routine blood work orders[1]
- **Integrate testing into standard EMR order sets** to reduce reliance on manual processes[7]
- **Consider alternative blood-collection approaches** (eg, mobile phlebotomy or home blood collection) where available to help further ease patient burden[8]

3 MONITORING AND FOLLOW-UP

Communicate results promptly and act accordingly*

*ESR1*m detected

- **Review positive results** via appropriate clinical and/or molecular review processes to define next actions[4,9]
- **Arrange follow-up** as per organizational protocol (eg, scheduled visit, virtual consultation, or pharmacy-led encounter)[4,9]
- **Communicate results** to the patient (eg, via treating physician, APP, nurse, or oncology pharmacist) and **consider treatment modification** when clinically appropriate[9]

*ESR1*m not detected

- **Communicate negative results** via patient portal/patient-provider messaging and **support longitudinal monitoring** where this is adopted in practice[1,9]

*These insights are collected from multiple experts representing 14 institutions across community and academic practice settings during roundtable discussions led by AstraZeneca.
†Scheduled at predefined intervals.[1]
‡EMR integrated results or manual workflow, based on test platform and turnaround time.[6]
Abbreviations: 1L=first-line; aBC=advanced breast cancer; AI=aromatase inhibitor; APP=advanced practice provider; CDK4/6i=cyclin dependent kinase 4/6 inhibitor; ctDNA=circulating tumor DNA; EMR=electronic medical record; *ESR1*m=estrogen receptor 1 mutation; HCP=health care professional; HER2=human epidermal growth factor receptor 2; HR=hormone receptor; SOP=standard operating procedure.

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