RNA Extraction from Breast Cancer Xenografts and Lymph Node Metastases
at The Institute of Cancer Research

**CONTEXT**

Within the context of The Institute of Cancer Research, ex vivo tumor tissues are being analyzed to study the gene expression of breast tumors and their metastases.

Breast cancer xenografts from different cell lines (MDA-MB-435 and G1-101), as well as their lymph node metastases, were frozen in liquid nitrogen after collection.

**MATERIAL**

- Precellys®24
- Precellys®24 kit CK14 (small ceramic beads)
- Sample: tumors from breast cancer xenografts and lymph node metastases (frozen)
- Buffer: 600μl of lysis buffer (RTL and β-mercaptoethanol)

**PROTOCOL**

- Precellys®24 parameters: 5500rpm, 1x20 sec.

**RESULTS**

In collaboration with The Institute of Cancer Research, McElain Laboratories, Sutton UK.

RNA extraction are performed following 10 different protocols:

<table>
<thead>
<tr>
<th>Number</th>
<th>Sample</th>
<th>Time</th>
<th>Number</th>
<th>Sample</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Primary Tumors</td>
<td>10 Sec.</td>
<td>6</td>
<td>Primary Tumors</td>
<td>20 Sec.</td>
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<tr>
<td>2</td>
<td>Primary Tumors</td>
<td>3×10 Sec.</td>
<td>7</td>
<td>Lymph node metastases</td>
<td>20 Sec.</td>
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<tr>
<td>3</td>
<td>20 Sec.</td>
<td>8</td>
<td>4</td>
<td>20 Sec.</td>
<td>9</td>
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<tr>
<td>5</td>
<td>20 Sec.</td>
<td>10</td>
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RNA gel procedure: 0.5 μg of total RNA diluted in 15μl of denaturing loading buffer (containing urea), denatured and run on a 1% agarose gel in 1x TBE at 140V for 1hour.

**CONCLUSION**

The Precellys® kits allow a quick and effective homogenization of the xenograft tissues, and the total RNA extracted with an appropriate kit following tissue lysis with the Precellys® kits is of good quality.