

Cell Marque™ Tissue Diagnostics

Mouse Monoclonal Anti-GATA3: A Useful Nuclear Marker for Breast Carcinoma

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Background:

As an immunohistochemical marker for breast cancer, GATA3 is well known for its particular role in breast luminal cell differentiation.¹ Often associated with hormone-receptor-positive breast carcinomas, GATA3 expression has shown promise in determining favorable prognoses and predicting tumor recurrence.² This study examines GATA3 expression across established molecular subtypes of breast carcinoma, including Luminal A, Luminal B, Her2 Type, and Triple Negative Breast Cancer (TNBC).³

Design:

Cancerous breast tissue samples from 191 individual cases including 145 invasive ductal carcinoma (IDC), 29 ductal carcinoma *in situ* (DCIS), 9 invasive lobular carcinoma (ILC), and 8 metastatic breast carcinoma (Met-BrCA) subtypes were stained with mouse monoclonal anti-GATA3 by routine immunohistochemistry. Each sample was microscopically evaluated by a pathologist and given a score between 0-4 for anti-GATA3 stain intensity: 0 = negative, 0.5-2.5 = low and 3-4 = high. According to their known estrogen receptor (ER), progesterone receptor (PR), and Her2 status, the cases were then grouped into four distinct cohorts.

Subtype	GATA3
IDC	135/145 (90%)
DCIS	29/29 (100%)
ILC	9/9 (100%)
Met-BRCA	7/8 (88%)

Subtype	GATA3
Luminal A	75/76 (99%)
Luminal B	44/44 (100%)
Her2 Type	17/19 (89%)
TNBC	40/52 (77%)



cohort 1

76 ER and/or PR + and Her2 + samples, categorized as Luminal A. The 76 Luminal A cases included 54 IDC (54/76, 71%), 15 DCIS (15/76, 20%), 5 ILC (5/76, 6%), and 2 Met-BrCA (2/76, 3%).



cohort 2

44 ER and/or PR + and Her2 - samples, categorized as Luminal B. The 44 Luminal B cases included 31 IDC (31/44, 70%), 12 DCIS (12/44, 27%), and 1 ILC (1/44, 3%).



cohort 3

19 ER and/or PR - and Her2 + samples, categorized as Her2 Type. The 19 Her2 Type cases included 16 IDC (16/19, 84%), 2 DCIS (2/19, 11%), and 1 ILC (1/19, 5%).



cohort 4

52 ER, PR, and Her2 - samples, categorized as TNBC. The 52 TNBC cases included 44 IDC (44/52, 85%), 6 Met-BrCA (6/52, 11%), and 2 ILC (2/52, 4%).

