

	Cluster 1 n (%)	Cluster 2 n (%)	Cluster 3 n (%)	χ^2 (p-value)
	GLS ⁻ /ALDH18A1 ⁺ /PYCRI ⁺	GLS ⁺ /ALDH18A1 ⁺ /PYCRI ⁺	GLS ⁺ /ALDH18A1 ⁻ /PYCRI ⁻	
mRNA				
Luminal A	174 (24.2)	242 (33.7)	302 (42.1)	177.5 (3.7x10⁻³⁴)
Luminal B	214 (43.9)	133 (27.3)	141 (28.9)	
Basal	91 (27.7)	148 (45.0)	90 (27.4)	
HER2	95 (39.6)	110 (45.8)	35 (14.6)	
Normal	23 (11.6)	60 (30.2)	116 (58.3)	
Protein				
ER+/HER2- Low Proliferation	8 (34.8)	10 (43.5)	5 (21.7)	23.8 (0.001)
ER+/HER2- High Proliferation	19 (48.7)	8 (20.5)	12 (30.8)	
Triple Negative	1 (2.8)	13 (36.1)	22 (61.1)	
HER2+	4 (28.6)	4 (28.6)	6 (42.9)	

Table 2. Gln-Pro Clusters in breast cancer molecular subtypes