

## Product Data Sheet

### Barrett's FISH (Solid Tumor) Probe Cocktails

Catalog #'s: PNX-BARC, PNX-BARD, PNX-BARE, PNX-BARF

#### Product Contents:

This Product insert covers four independent FISH probe cocktails, "Barrett's FISH Probe Cocktail Mix C", "Barrett's FISH Probe Cocktail Mix D", "Barrett's FISH Probe Cocktail Mix E", and "Barrett's FISH Probe Cocktail Mix F". These FISH probes are intended for use with solid tumor samples. For esophageal brushing samples, please see "**Barrett's FISH (brushings) Probe Cocktails**". The Barrett's FISH Probe Cocktails are provided ready to use in hybridization buffer. Blocking DNA is included to suppress non-specific binding to similar sequences outside of the indicated binding sites. Researchers are advised to optimize slide processing and hybridization conditions.

Volume: 250µl  
 Reactions: 50 (5µl/ reaction)

#### Included FISH Probes:

The following table indicates each of the individual FISH probes and associated colors included in the "**Barrett's FISH Probe Cocktail Mix C**".

Gene	Locus	Color	Dye	Absorbance	Emission
CDKN2A	9p21	Yellow	Alexa532	532	554
CEN9	D9Z1	Green	Alexa488	495	519

The following table indicates each of the individual FISH probes and associated colors included in the "**Barrett's FISH Probe Cocktail Mix D**".

Gene	Locus	Color	Dye	Absorbance	Emission
ERBB2 (HER2)	17q12	Yellow	Alexa532	532	554
CEN17	D17Z1	Green	Alexa488	495	519

The following table indicates each of the individual FISH probes and associated colors included in the "**Barrett's FISH Probe Cocktail Mix E**".

Gene	Locus	Color	Dye	Absorbance	Emission
MYC	8q24	Yellow	Alexa532	532	554
CEN8	D8Z1	Green	Alexa488	495	519

The following table indicates each of the individual FISH probes and associated colors included in the “**Barrett’s FISH Probe Cocktail Mix F**”.

Gene	Locus	Color	Dye	Absorbance	Emission
ZNF217	20q13	Yellow	Alexa532	532	554
CEN20	D20Z1	Green	Alexa488	495	519

## Clinical Relevance:

Studies have shown that copy number increases in ERBB2 (17q12), MYC (8q24), or ZNF217 (20q13) are associated with high grade dysplasia/ adenocarcinoma while copy number decrease of the 9p21 locus is associated with low or high grade dysplasia. Additional studies have shown that patients with a histologic response to photodynamic therapy (the absence of high grade dysplasia) who have copy number increases in either ERBB2, MYC, ZNF217 or copy number decrease in 9p21 appear to be a higher risk of developing recurrent high grade dysplasia.

**ERBB2 (17q12):** Copy number increase is associated with high grade dysplasia/ adenocarcinoma and increased risk of recurrence.

**MYC (8q24):** Copy number increase is associated with high grade dysplasia/ adenocarcinoma and increased risk of recurrence.

**ZNF217 (20q13):** Copy number increase is associated with high grade dysplasia/ adenocarcinoma and increased risk of recurrence.

**P16 (9p21):** Copy number decrease is associated with high grade dysplasia/ adenocarcinoma and increased risk of recurrence.

## Probe Specifications:

### Centromere Specific Probe Specifications:

Each of the centromere specific probes target the  $\alpha$ -satellite region of the centromere specific for the indicated chromosome.

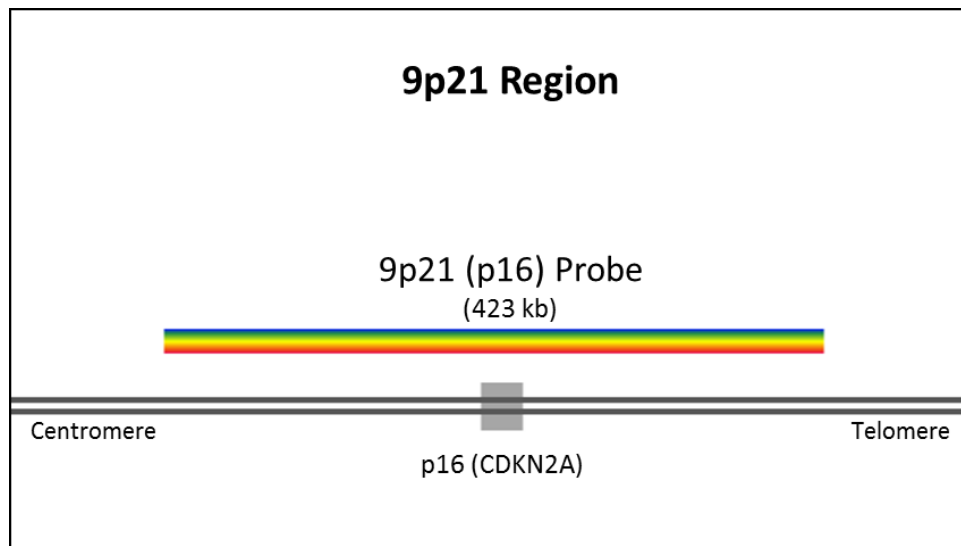
### Locus Specific Probes:

Probe and target gene boundaries are indicated in relation to proximity to the centromere or telomere. Positions are based on UCSC genome assembly GRCh37/hg19.

### CDKN2A (9p21) Probe Specifications:

Locus	Target			Probe		
	Gene	Centromere	Telomere	Centromere	Telomere	Size (Kb)
9p21	p16 (CDKN2A)	21,967,751	21,994,490	21,764,403	22,187,312	423

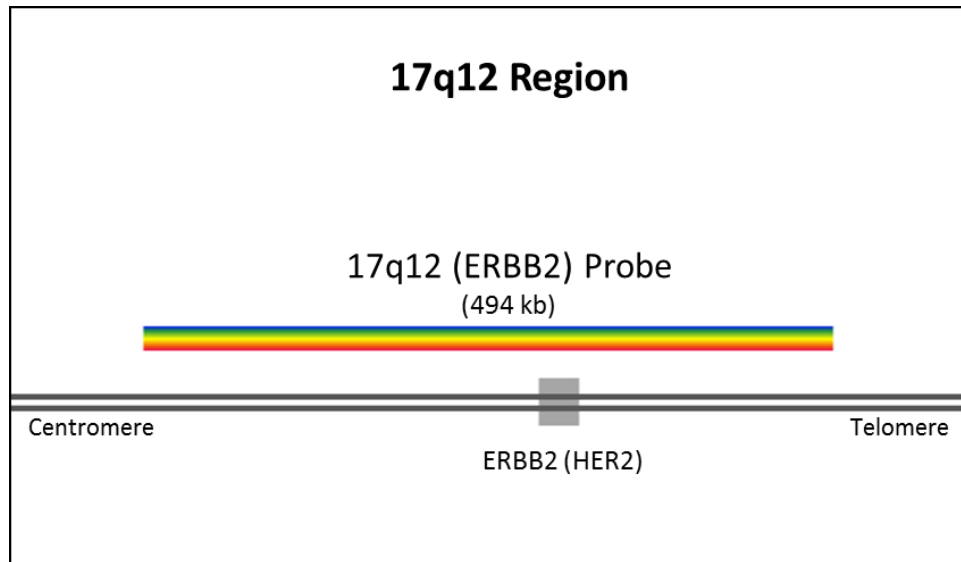
### Probe Map:



## ERBB2 (HER2) (17q12) Probe Specifications:

Locus	Target			Probe		
	Gene	Centromere	Telomere	Centromere	Telomere	Size (Kb)
17q12	ERBB2 (HER2)	37,856,254	37,884,915	37,572,511	38,066,611	494

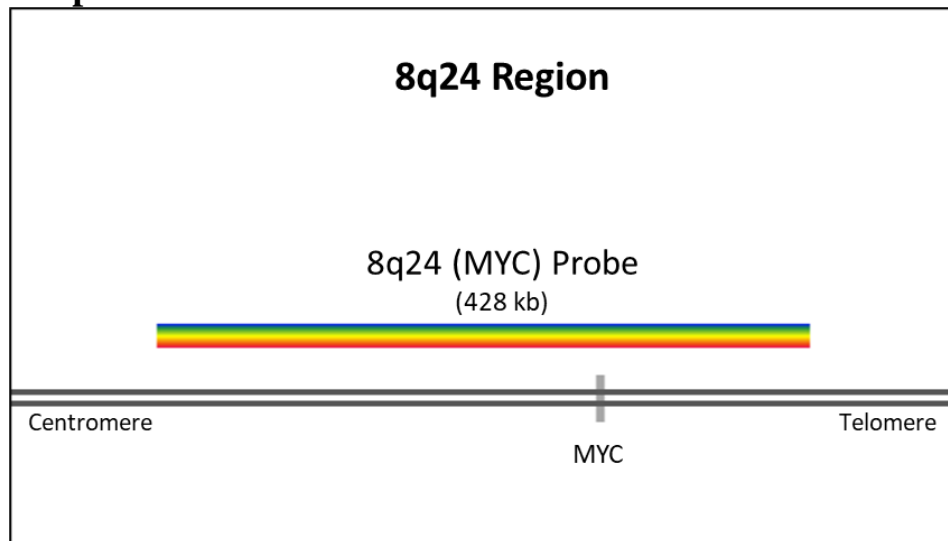
### Probe Map:



## MYC (8q24) Probe Specifications:

Locus	Target			Probe		
	Gene	Centromere	Telomere	Centromere	Telomere	Size (Kb)
8q24	MYC	128,748,315	128,753,680	128,459,594	128,887,949	428

### Probe Map:

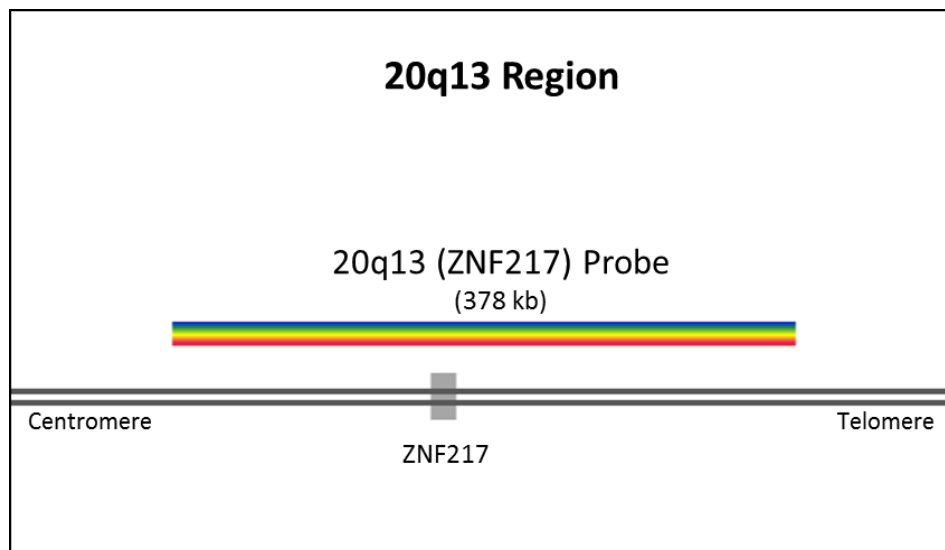


For Investigational Use Only. The performance characteristics of this product have not been established.

## ZNF217 (20q13) Probe Specifications:

Locus	Target			Probe		
	Gene	Centromere	Telomere	Centromere	Telomere	Size (Kb)
20q13	ZNF217	52,183,610	52,199,636	52,026,197	52,404,557	378

## Probe Map:



## Storage:

Store at +4°C to -20°C  
Protect from direct light.

## References:

1. Prasad GA, Wang KK, Halling KC, Buttar NS, Wongkeesong LM, Zinsmeister AR, Brankley SM, Westra WM, Lutzke LS, Borkenhagen LS, Dunagan K.: Correlation of histology with biomarker status after photodynamic therapy in Barrett esophagus. *Cancer*. 2008 Aug 1;113(3):470-6.
2. Brankley SM, Wang KK, Harwood AR, Miller DV, Legator MS, Lutzke LS, Kipp BR, Morrison LE, Halling KC.: The development of a fluorescence in situ hybridization assay for the detection of dysplasia and adenocarcinoma in Barrett's esophagus. *J Mol Diagn*. 2006 May;8(2):260-7.