

## green line DATA SHEET

### > XtraTaq Pol White GL (Green Line)

cat. no.	amount	note
XSTS-T5XW 250 GL	250 units	5X XtraWhite Buffer GL
XSTS-T5XW 1000 GL	1000 units	5X XtraWhite Buffer GL
XSTS-T5XWw 250 GL	250 units	5X XtraWhite Buffer GL w/o MgCl2
XSTS-T5XWw 1000 GL	1000units	5X XtraWhite Buffer GL w/o MgCl2

*add nucleotide box*

cat. no.	amount	note
XSTS-T5XW 250 GL	250 units	5X XtraWhite Buffer GL + dNTPs
XSTS-T5XW 1000 GL	1000 units	5X XtraWhite Buffer GL + dNTPs
XSTS-T5XWw 250 GL	250 units	5X XtraWhite Buffer GL w/o MgCl2 + dNTPs
XSTS-T5XWw 1000 GL	1000units	5X XtraWhite Buffer GL w/o MgCl2 + dNTPs

An highly processive, recombinant (from E.coli strain), thermostable DNA with a very high efficiency of 5'- 3' polymerase activity and 3'- 5' exonuclease (non-proofreading) activity. Xtra Taq Pol catalyzes the addition of mononucleotide units to the 3'-end of a primer chain, leading to the formation of DNA products that have 3'-overhanging A nucleotides (thus can be used in TA cloning). This enzyme remains functional even after prolonged incubation steps at 95°C. The enzyme is supplied at 5U/μl and comes with 5X XtraWhite GL new buffer.

5X XtraWhite GL is a Genespin proprietary formulation, developed for standard and/or high-fidelity amplification of high-GC (>75%) templates. The buffer contains 7.5mM magnesium, PCR enhancers and thickening agents (vortex thoroughly prior to use) and is supplied with 1ml of 6X Orange Loading Dye GL. **5X XtraWhite GL contain an internal fluorescent stain for DNA detection on Agarose gel directly after PCR amplification.**

The Orange G dye migrates at the same rate as a duplex DNA fragment of approximately 50 Kbp and does not interfere with DNA migration when it is used as a loading dye for agarose gel electrophoresis.

FOR RESEARCH USE ONLY

#### UNIT DEFINITION

One unit is defined as the amount of enzyme required to incorporate 10 nanomoles of dNTPs into acid-insoluble material in 30 min at 74°C.

#### SHIPPING

Shipped in green ice.

#### STORAGE

Store at -20C°

#### SHELF LIFE

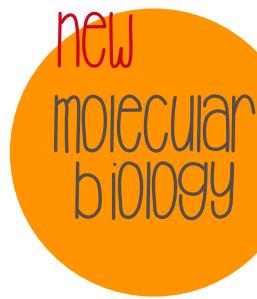
12 months

#### FORM

Liquid

#### CONCENTRATION

5U/μl



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### > XtraTaq Pol White GL (Green Line)

component	STS-T5XW 250 GL	STS-T5XWw250 GL	STS <sub>n</sub> -T5XW250 GL	STS <sub>n</sub> -T5XWw250 GL
Xtra Taq Polymerase	250 units / 50ul	250 units / 50ul	250 units / 50ul	250 units / 50ul
Standard Buffer	1.5ml 5X Buffer with MgCl <sub>2</sub>	1.5ml 5X Buffer w/o MgCl <sub>2</sub>	1.5ml 5X Buffer with MgCl <sub>2</sub>	1.5ml 5X Buffer w/o MgCl <sub>2</sub>
MgCl <sub>2</sub>	-	500ul / 50mM	-	500ul / 50mM
dNTPs	-	-	100ul / 10mM each	100ul / 10mM each

component	STS-T5XW1000 GL	STS-T5XWw1000 GL	STS <sub>n</sub> -T5XW1000 GL	STS <sub>n</sub> -T5XWw1000 GL
Xtra Taq Polymerase	1000 units / 200ul	1000 units / 200ul	1000 units / 200ul	1000 units / 200ul
Standard Buffer	4ml 5X Buffer GL with MgCl <sub>2</sub>	4ml 5X Buffer GL w/o MgCl <sub>2</sub>	4ml 5X Buffer GL with MgCl <sub>2</sub>	4ml 5X Buffer GL w/o MgCl <sub>2</sub>
MgCl <sub>2</sub>	-	500ul / 50mM	-	500ul / 50mM
dNTPs	-	-	400ul / 10mM each	400ul / 10mM each

#### Assay Set-Up:

Before starting, vortex all components thoroughly to ensure homogeneity.

Prepare a premix for the number of assays you need according to the following protocol:

component	stock conc.	final conc.	30ul reaction
5X Buffer GL	5X	1X	6.0ul
dNTPs	10mM each.	200uM	0.6ul
Xtra Taq Polymerase	5U.ul	0.025U.ul	0.2ul
primers	1ug.ul each	50ng.ul each	2ul each
DNA Template	-	-	10-20ng
MG Water	-	-	up to 30ul

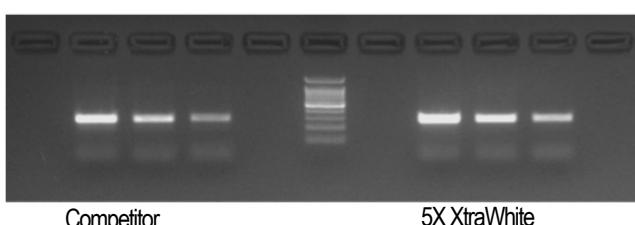
#### Cycling conditions:

Spin down the tubes/plate briefly to remove bubbles and place them into the cycler.

denaturation	95°C	5 min	20-35x
denaturation	95°C	30 sec	
annealing (1)	50-68°C	30 sec	
extension (2)	72°C	30sec	

1)The annealing temperature depends on the melting temperature of the primers used.

2)The elongation time depends on the length of the fragments to be amplified. A time of 1 min/kb is recommended.



Comparisons of the amplification efficiency of new **5X XtraWhite Buffer** versus Competitor were performed using serial dilutions (1:10, 1:100, 1:1000) of Kiwi DNA and specific primers corresponding to pathogen PSA. The results are shown above. New **5X XtraWhite Buffer** demonstrated excellent specificity and high efficiency in amplifying the pathogen.

**new**  
molecular  
biology



GeneSpin

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Scientist to Scientist

GeneSpin PCR green line

green line

## No more post or pre-staining protocol for DNA on Agarose Gel

**GeneSpin PCR green line** (Genespin proprietary formulation), is a specific PCR products line focused on users safety.

Either 2X PCR Mastermixes GL or 5x PCR buffers GL contain an internal fluorescent stain for DNA detection on Agarose gel directly after PCR amplification. This particular composition is able to avoid standard protocols for post- or pre- staining DNA on Agarose Gel with EtBr or different dsDNA stains. The fluorescent used in **GeneSpin PCR green line reagents** has higher sensitivity than EtBr and has an easy, fast and robust staining procedure. Detection is possible by illuminating the Agarose Gel on a UV screen. Ames test II has shown a lower mutagenic potential compared to SYBR Green I and a much lower mutagenic potential than EtBr. Storage: protect GeneSpin GL reagents from light.

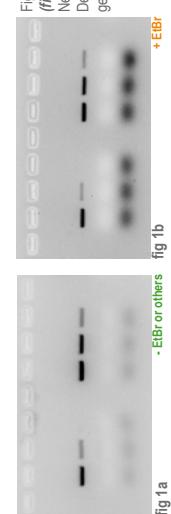


fig 2  
- EtBr or others  
+ EtBr



fig 3  
- EtBr or others

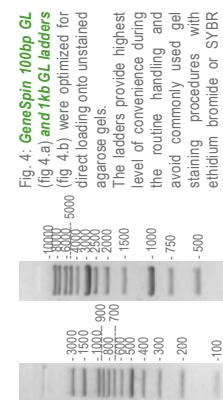


fig 4b  
- EtBr or others

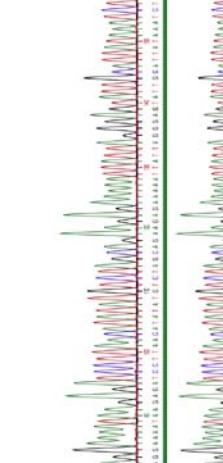


fig 5

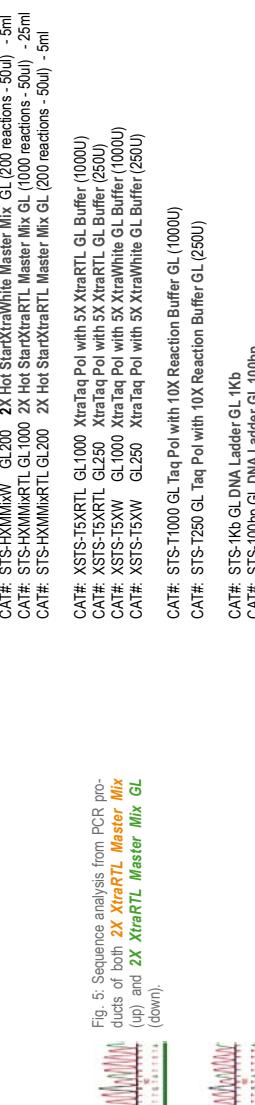


Fig. 3: Detection of **GeneSpin PCR green line products** on 3% agarose gel (fig. 3) by illuminating the agarose gel on a UV screen without post- or pre-staining. The PCR amplification was performed using serial dilutions (1:1, 1:10, 1:100) of U2OS human cells INPUT DNA and specific primers corresponding to SON region. **2X XtraRTL Master Mix GL** (fig. 3.a), **Xtra Taq 5U/wl + 5X Xtra RTL Buffer**, **GL** (fig. 3.b), **GS Tag Pol +10X PCR Buffer** (fig. 3.c), **2X XtraWhite Master Mix GL** (fig. 3.d), **Xtra Taq (5U/wl) + 5X Xtra White Buffer** **GL** (fig. 3.e).

use UV light to detect signal

### without add Gel Stain (NO EtBr or others)

#### ORDERING Information

CAT#:	STS-XMMIXW	Gl, 1000 2X XtraWhite Master Mix GL (1000 reactions -50ul) - 25ml
CAT#:	STS-XMMIXM	Gl, 200 2X XtraWhite Master Mix GL (200 reactions -50ul) - 5ml
CAT#:	STS-XMMIXRTL	Gl, 1000 2X XtraRTL Master Mix GL (1000 reactions -50ul) - 25ml
CAT#:	STS-XMMIXRTL GL200	2X XtraRTL Master Mix GL (200 reactions -50ul) - 5ml
CAT#:	STS-XHMIXW	Gl, 1000 2X Hot StartXtraWhite Master Mix GL (1000 reactions -50ul) - 25ml
CAT#:	STS-XHMIXM	Gl, 200 2X Hot StartXtraWhite Master Mix GL (200 reactions -50ul) - 5ml
CAT#:	STS-XHMIXRTL	Gl, 1000 2X Hot StartXtraRTL Master Mix GL (1000 reactions -50ul) - 25ml
CAT#:	STS-XHMIXRTL GL200	2X XtraRTL Master Mix GL (200 reactions -50ul) - 5ml
CAT#:	STS-T5XRTH	Gl, 1000 XtraTaq Pol with 5X XtraRTL GL Buffer (1000u)
CAT#:	STS-T5XRTH GL250	XtraTaq Pol with 5X XtraRTL GL Buffer (250u)
CAT#:	STS-T5XW	Gl, 1000 XtraTaq Pol with 5X XtraWhite GL Buffer (1000u)
CAT#:	STS-T5XW GL250	XtraTaq Pol with 5X XtraWhite GL Buffer (250u)
CAT#:	STS-T1000 GL Taq Pol with 10X Reaction Buffer GL (1000u)	
CAT#:	STS-T250 GL Taq Pol with 10X Reaction Buffer GL (250u)	
CAT#:	STS-1Kb GL DNA Ladder GL 1Kb	
CAT#:	STS-100bp GL DNA Ladder GL 10bp	

\*For research only, not for resale

\*\*The PCR process which is the subject of European Pat. Nos. 201184 and 200362 owned by Hoffmann-La Roche\*, is covered by patents issued and applicable in certain countries. GeneSpin does not encourage or support the unauthorized or unlicensed use of the PCR process. Use of this product is recommended for persons that either have a license to perform PCR or are not required to obtain a license.

\* The above primary European Pat. Nos. 201184 and 200362 expired on March 28, 2006.  
In the U.S., the patents covering the Euorditional PCR process expired on March 29, 2005.

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