pGAT GST fusion vectors

```
     T7 promoter          lac operator          (XbaI) T7 ribosome binding site
1    TAATACGACTCACTATAGGGAATTGTGAGCGGATAACAATTCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATCC   85
                                          SpeI                 SpeI
86   ATGAACACCATTCATCACCATCACCATCACAACACTAGTATG — GST — ACTAGTGGATCTGGTGGTGGTGGCGGCCGC  815
     M  N  T  I  H  H  H  H  H  H  N  T  S  M                T  S  G  S  G  G  G  G  G  R
```

pGAT

```
          StuI          NcoI  XhoI    SmaI   HindIII
CTGGTTCCGAGGCCTATCGGATCCATGGCTCGAGTTCCCGGGCAAGCTT
L  V  P  R△P  I  G  S  M  A  R
         Thrombin
```

pGAT2

```
                NcoI
          (BamHI)         EcoRI  SalI XhoI (BamHI)                    NsiI HindIII
CTGGTTCCGAGGGGATCCATGGATATCGAATTCGTCGACCTCGAGGGATCCGGGCCCTCTAGATGCGGCCGCATGCATAAGCTT
L  V  P  R△G  S  M  D  I  E
         Thrombin
```

pGAT3

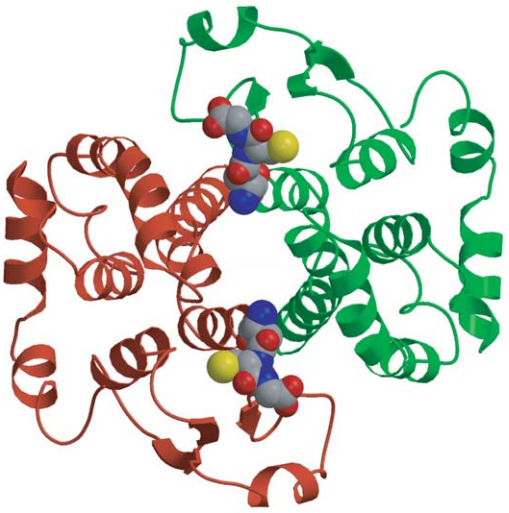
```
          (BamHI)                            NcoI       EcoRI SalI  XhoI (BamHI)
CTGGTTCCGAGGGGATCCATGTCTGAAAACCTGTACTTCCAGGGTTCCATGGATATCGAATTCGTCGACCTCGAGGGATCCGGG
L  V  P  R△G  S  M  S  E  N  L  Y  F  Q△G  S  M  D  I  E  F  V
         Thrombin     NsiI  HindIII        TEV
CCCTCTAGATGCGGCCGCATGCATAAGCTT
```

```
     SP6 promoter
GAGTATTCTATAGTGTCACCTAAATCCCAGCTTGATCCGGCTGCTAACAAAGCCCGAAAGGAAGCTGAGTTGGCTGCTGCCACC

        T7 transcription terminator
GCTGAGCAATAACTAGCATAACCCCTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTTGCTGAAAGG
```

Feature table

	Position in pGAT2
T7 promoter	1 - 17
lac operator	21 - 42
T7 gene 10 RBS	50 - 80
His-tag	98 - 115
Glutathione-S-transferase	125 - 1279
Polylinker	883 - 899
SP6 promoter	904 - 922
T7 transcription terminator	1001 - 1042
LacI gene (coding region)	1452 - 2533
β-lactamase (coding region)	3303 - 4153
Origin of replication	4228 - 4923



Glutathione-S-transferase dimer, PDB:1GNE

Fusion protein data

(until the protease cleavage site)

	pGAT/pGAT2
Length	247 aa
Molecular weight	28482.74
pI	7.15
ε_{280} ($M^{-1}cm^{-1}$)	40680

References:

These vectors are currently not published, and should cited as
J. Peränen and M. Hyvönen, unpublished.

Reference for the original non-fusion and His-tag vectors is:
Peränen J., Rikkonen M.,Hyvönen M., Kääriäinen L. (1996)
T7 vectors with modified T7*lac* promoter for expression of proteins in *Escherichia coli*. Anal. Biochem., 236:371-373

For more information see http://www-cryst.bioc.cam.ac.uk/~marko/vector, or email marko@cryst.bioc.cam.ac.uk

Notes:
All the data on this page is correct to the best of our knowledge, yet you should use it at your own risk.

Restriction sites indicated in paranthesis cut the vector twice, but are thought to be useful in some instances and shown to your benefit

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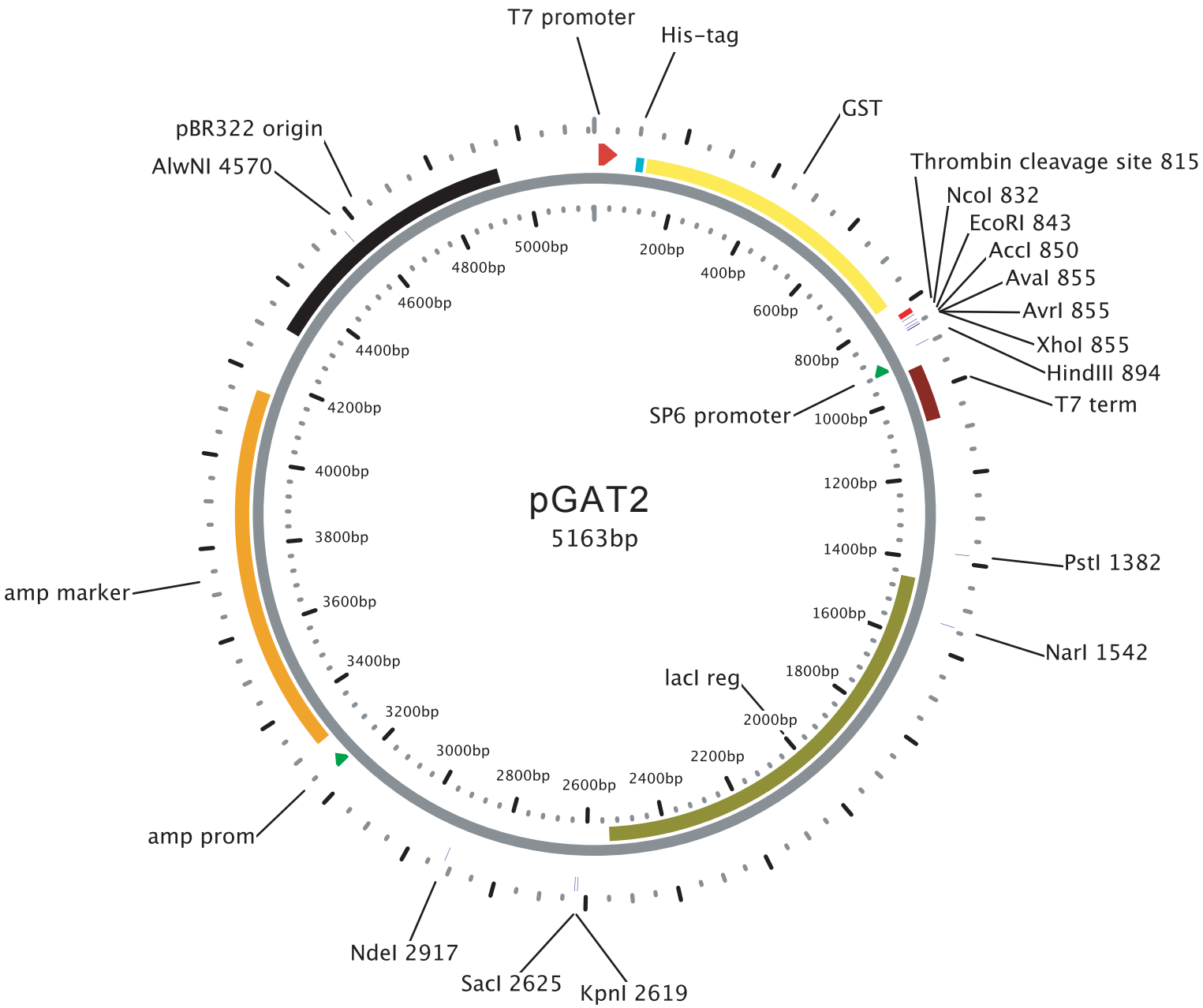
Plasmid map on page 2 was orginally created using Plasmapper web server at http://wishart.biology.ualberta.ca/PlasMapper/ and edited by hand.

Marko Hyvonen, University of Cambridge


T7 promoter
His-tag
GST
Thrombin cleavage site 815
NcoI 832
EcoRI 843
AccI 850
AvaI 855
AvrI 855
XhoI 855
HindIII 894
T7 term
PstI 1382
NarI 1542
lacI reg
SP6 promoter
amp marker
amp prom
NdeI 2917
SacI 2625
KpnI 2619
pBR322 origin
AlwNI 4570
pGAT2
5163bp
200bp
400bp
600bp
800bp
1000bp
1200bp
1400bp
1600bp
1800bp
2000bp
2200bp
2400bp
2600bp
2800bp
3000bp
3200bp
3400bp
3600bp
3800bp
4000bp
4200bp
4400bp
4600bp
4800bp
5000bp