**Additional file 1**

**SuperArray SureSilencing shRNA plasmids mediated GEP knockdown**

pGeneClipNeomycin Vector (~5kbp)

GEP shRNA

AGGCCCTGATAGTCAGTTCGAATTGACAGGAAGATTCGAACTGACTATCAGGGC

*Complement*

GCCCTGATAGTCAGTTCGAATCTTCCTGTCAATTCGAACTGACTATCAGGGCCT

shNC Scramble artificial sequence

AGGGAATCTCATTCGATGCATACTGACAGGAAGGTATGCATCGAATGAGATTCC

pGeneClips Neo sequence

CAGCTATGCATCCAACGCGTTGGGAGCTCCTCGAGGTTAACATCGATGCGGCCGCCCAGTCTACTTTTGAAACTCCAGACTGCBD21298_GAGATCTTGGGCCTCTGCCCCGACACAGCCTCATACGCCTCACTCTTTACACACACGGTCACTTGCCCCGCGCACTCCCGAGCCCTTTCCAGCCCTGACACACAGCTGGGATTCTCACTTCCGATCAGCGGTCCTGAACCCGCTCCCAGGGCACGGGAACTCCTTCGTGGTGAAGCAGCAAGTGGCGAAGCAGCAGCCTCTGCGCTGCCTCATCTACATAGAAGTCGCCCTGTCCGTGATGTCACCGACAGTGCCTTGCCCAGTCCCCGTCTGCCTTTCTGCCACTCAACCGACCAATCTGCTGCCAGAGCCGCCAAGGGGAAGTGACGTCTGCCTCTCCCTTTTTCCCTCCCGCCCCTGCGTCTGTTCTCTCCCAAAGAAGCTGGTCCTTANGGATCCGAATTCGTCGACTCTAGAGATATCGGGNCCAATTCGCCCTATAGTGAGTCGTATTACAATTCACTGGCCGTCGTTTTACACGTCGTGACTGGGAAAACCCTGGCGTTACCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAANAGCCCGCACGATCGCCNTCCAACANTGCGCAGCTGAATGGGAATGGACCGCCCTGTACGGGCATTAGCGCGGNGGNGGGNGGTACCGCAAGNGACGCTAACTGCAGGCCCTANGCCGCTCTTTNCTTCTTCCTNCTTTCCGCANNNGNGGGTTTC

* insert position