

Product datasheet for **TG320498**

PTEN Human shRNA Plasmid Kit (Locus ID 5728)

Product data:

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| Product Type: | shRNA Plasmids |
| Product Name: | PTEN Human shRNA Plasmid Kit (Locus ID 5728) |
| Locus ID: | 5728 |
| Synonyms: | 10q23del; BZS; CWS1; DEC; GLM2; MHAM; MMAC1; PTEN1; PTENbeta; TEP1 |
| Vector: | pGFP-V-RS (TR30007) |
| E. coli Selection: | Kanamycin |
| Mammalian Cell Selection: | Puromycin |
| Format: | Retroviral plasmids |
| Components: | PTEN - Human, 4 unique 29mer shRNA constructs in retroviral GFP vector(Gene ID = 5728). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pGFP-V-RS Vector, TR30013, included for free. |
| RefSeq: | NM_000314 , NM_001304717 , NM_001304718 , NM_000314.1 , NM_000314.2 , NM_000314.3 , NM_000314.4 , NM_000314.5 , NM_000314.6 , BC005821 , NM_000314.7 |
| UniProt ID: | P60484 |
| Summary: | This gene was identified as a tumor suppressor that is mutated in a large number of cancers at high frequency. The protein encoded by this gene is a phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase. It contains a tensin like domain as well as a catalytic domain similar to that of the dual specificity protein tyrosine phosphatases. Unlike most of the protein tyrosine phosphatases, this protein preferentially dephosphorylates phosphoinositide substrates. It negatively regulates intracellular levels of phosphatidylinositol-3,4,5-trisphosphate in cells and functions as a tumor suppressor by negatively regulating AKT/PKB signaling pathway. The use of a non-canonical (CUG) upstream initiation site produces a longer isoform that initiates translation with a leucine, and is thought to be preferentially associated with the mitochondrial inner membrane. This longer isoform may help regulate energy metabolism in the mitochondria. A pseudogene of this gene is found on chromosome 9. Alternative splicing and the use of multiple translation start codons results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Feb 2015] |



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- shRNA Design:** These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact techsupport@origene.com. If you need a special design or shRNA sequence, please utilize our [custom shRNA service](#).
- Performance Guaranteed:** OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.
- For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).