**OriGene Technologies, Inc.**
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

# Product datasheet for TG310597

## PAX6 Human shRNA Plasmid Kit (Locus ID 5080)

### Product data:

| | |
|---|---|
| **Product Type:** | shRNA Plasmids |
| **Product Name:** | PAX6 Human shRNA Plasmid Kit (Locus ID 5080) |
| **Locus ID:** | 5080 |
| **Synonyms:** | AN; AN1; AN2; ASGD5; D11S812E; FVH1; MGDA; WAGR |
| **Vector:** | pGFP-V-RS (TR30007) |
| **E. coli Selection:** | Kanamycin |
| **Mammalian Cell Selection:** | Puromycin |
| **Format:** | Retroviral plasmids |
| **Components:** | PAX6 - Human, 4 unique 29mer shRNA constructs in retroviral GFP vector(Gene ID = 5080).<br>5µg purified plasmid DNA per construct<br>29-mer scrambled shRNA cassette in pGFP-V-RS Vector, TR30013, included for free. |
| **RefSeq:** | NM_000280, NM_001127612, NM_001258462, NM_001258463, NM_001258464, NM_001258465, NM_001310158, NM_001310159, NM_001310160, NM_001310161, NM_001604, NM_000280.1, NM_000280.2, NM_000280.3, NM_000280.4, NM_001604.1, NM_001604.2, NM_001604.3, NM_001604.4, NM_001604.5, NM_001127612.1, NM_001258464.1, NM_001258465.1, NM_001258462.1, NM_001258463.1, BC011953, BC011953.1, BM313099, BM557761, BM666662, BM725029, NM_001368887, NM_001368892, NM_001368894, NM_001368899, NM_001368900, NM_001368903, NM_001368906, NM_001368908, NM_001368909, NM_001368910, NM_001368912, NM_001368915, NM_001368916, NM_001368917, NM_001368918, NM_001368922, NM_001368924, NM_001368926, NM_001368927, NM_001368929, NM_001368888, NM_001368889, NM_001368890, NM_001368891, NM_001368893, NM_001368901, NM_001368902, NM_001368904, NM_001368905, NM_001368907, NM_001368911, NM_001368913, NM_001368914, NM_001368919, NM_001368920, NM_001368921, NM_001368923, NM_001368925, NM_001368928, NM_001368930, NR_160916, NR_160917, NM_001604.6, NM_001258462.3, NM_001258463.2, NM_000280.5, NM_001258465.3, NM_001127612.3, NM_001258464.2 |
| **UniProt ID:** | P26367 |

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**Summary:**

This gene encodes paired box protein Pax-6, one of many human homologs of the Drosophila melanogaster gene prd. In addition to a conserved paired box domain, a hallmark feature of this gene family, the encoded protein also contains a homeobox domain. Both domains are known to bind DNA and function as regulators of gene transcription. Activity of this protein is key in the development of neural tissues, particularly the eye. This gene is regulated by multiple enhancers located up to hundreds of kilobases distant from this locus. Mutations in this gene or in the enhancer regions can cause ocular disorders such as aniridia and Peter's anomaly. Use of alternate promoters and alternative splicing results in multiple transcript variants encoding different isoforms. Interestingly, inclusion of a particular alternate coding exon has been shown to increase the length of the paired box domain and alter its DNA binding specificity. Consequently, isoforms that carry the shorter paired box domain regulate a different set of genes compared to the isoforms carrying the longer paired box domain. [provided by RefSeq, Mar 2019]

**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).