# **Oligonucleotides**

## Synthesis of oligonucleotides

In GENERI BIOTECH, we synthesize oligonucleotides using polystyrene columns (Highly cross-linked polystyrene bead support). Compared to the commonly used CPG support, oligonucleotides synthesized in this way have a very low proportion of short truncated chains ("shortmers").

Our regular manufacturing process always consists of a standard purification process (i.e. desalting, removal of chemical impurities). Oligonucleotides of common lengths (up to 40 bases) are of such high quality that they do not require further purification when intended for standard applications in molecular biology.

#### **Available scales of synthesis**

20 nmol, 40 nmol, 200 nmol, 1 µmol and 10 µmol.

#### Length of chain

Prevalent range of lengths is 2 –99 bases.

#### **Degeneration**

Oligonucleotides can contain degeneration at any position in a chain. There are two basic possibilities how to achieve a degenerate site: by a mix of nucleotides or by implementing inosine. Implementing inosine at the 3' or 5'end: see list of modifications.

Cat.No.	Product	Unit
1100	Inosin	pc.

#### **Purification**

If a higher purity of final product is still required, we provide 2 types of purification:

- OPC purification (Oligonucleotide Purification Cartridge in addition to chemical impurities (surplus of salts, protecting
  moieties), shorter truncated chains are removed from the resulting product. The purification of this type is sufficient
  for most applications generally used.
- **HPLC purification** oligonucleotide is efficiently separated from impurities and sequences of false lengths. HPLC purification results in an oligonucleotide of high purity convenient even for demanding applications.

Cat.No.	Product	Unit
1400	OPC purification	chain
1401	HPLC purification	chain

 $\label{lem:continuous} \textit{If a purification is ordered, an additional fee is charged for each purified oligonucleotide.}$ 



### **Product stability**

We recommend that you store dried oligonucleotides at a temperature of 4°C or lower. After oligonucleotides are dissolved we recommend storage at -20°C, preferably in aliquots.

Fluorescently labeled oligonucleotides and probes should not be exposed to direct light.

We guarantee full function of oligonucleotides for two years after date of synthesis provided that they were stored according to recommendations.

### **Final product**

The quantity of oligonucleotides is determined through UV spectrophotometry and expressed in nanomoles, optical units and micrograms. Oligonucleotides are usually delivered in a dried state. However, some of them can be delivered in a solution for technological reasons.

#### **Stock products**

In addition to custom synthesis, we hold some frequently used oligonucleotides in stock:

Cat.No.	Product	Unit
1070	in-stock oligo: random hexamers, 20 nmol	pc.
1071	in-stock oligo: random hexamers (protected), 20 nmol	рс.

