

Packaging of Biologically active Peptides and products from Peptide Institute

The biologically active peptides listed in this catalog are sold in most cases as amorphous powder which has been lyophilized from aqueous or dilute acetic acid solution. They are available in two package forms: screw-capped bottles (indicated as **Bulk**) and injection vials (indicated with a V or S suffix at the end of each code number).

Screw-capped Bottles: The amorphous powder of each peptide is thoroughly dried over desiccant in vacuo and then weighed in a bottle. Thus, the weight indicated on the label represents the gross weight of the amorphous powder, which includes the peptide as well as the accompanying water and acetic acid, if any. The amount of water and acetic acid in each amorphous powder is precisely determined by elemental analysis, Karl Fischer titration or gas chromatography. In some cases, peptides contain hydrochloride or ammonia instead of acetic acid. The observed value(s) of such accompanying constituent(s) is given in the structural formula of the respective peptide described in this catalog. For example, **code 4002 Bradykinin** is described as follows

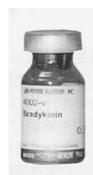
4002 Bradykinin - Bulk 100 mg
Arg-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg • 2AcOH • 3H₂O
(MW. 1060.2 • 120.10 • 54.05)



The total molecular weight of this amorphous powder is calculated to be 1234.4, which consists of 1060.2 for the net bradykinin molecule, 120.10 for two molecules of acetic acid and 54.05 for three molecules of water. This means that 100 mg of this powder contains net 85.9 mg of bradykinin molecules. Amounts of the accompanying water and acetic acid vary with the lot: the exact value in the purchased peptide is available on request. Given the hygroscopic nature of amorphous powder, precise weighing of a small quantity of peptide is not an easy task.

Vials: A peptide with constant weight is lyophilized and sealed under nitrogen in each vial. The net peptide weight is precisely determined by amino acid analysis after acid hydrolysis, HPLC analysis and/or UV absorption measurement, which is indicated clearly on the label of each vial. The indicated weight is only the net peptide molecule and does not include the weight of any additional constituents (water, acetic acid and so on). For example, code 4002-v Bradykinin is described as follows:

4002-v Bradykinin Vial 0.5 mg
Arg-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg
(MW. 1060.2)



This indicates that each vial contains ca. 0.5 mg of bradykinin and the exact weight is indicated on the label (for example, 0.53 mg) and the instruction sheet (for example, 0.53 mg, 0.50 μmol), see details on page XXI. The weight is determined carefully and precisely by experts in our quality control department, therefore, we guarantee the quantity in each vial even if the content seems to be a small quantity.

A peptide solution of a known concentration can be constituted easily by injecting a given volume of a suitable solvent, indicated in the instruction sheet, into the vial using a calibrated syringe and dissolving the contents thoroughly. The peptide content in each vial is relatively small and accurately measured, therefore, the peptide should not be taken out of the vial to prepare a solution with a guaranteed concentration.