blisters. In one embodiment, each blister well or cavity **104** can be greater than about 1 cm in length; greater than 1 cm in height at dome **108**, and greater than 1 cm in width. In one embodiment, the size of cavity **104** can be about 1.5 cm in width, approximately 2.5 cm in length and about 1.5 cm in height; wherein rows **106** within a blister package can be each about 6 cm in length and about 3.5 cm in width. In this and other embodiments, cavities **104** can be configured centrally within a blister row or segment of a blister package.

[0038] FIGs. 2 and 3 each illustrate opposing side views of blister package **100** illustrated in FIG. 1. Depicted in FIGs. 2 and 3 is the uniform arrangement of rows **106** within blister package **100**. FIGs. 2 and 3 also depict dome **108** and shelf **110** shapes having what can be an overall substantially elongated shape. Cavities **104** can have a flat end or shelf extending laterally from a dome structure. FIGs. 2 and 3 also illustrate blistered base sheet **102** forming blister wells or cavities **104** and lid **114** is shown sealing the cavities **104**.

[0039] FIG. 4 is a bottom view of blister package **100** illustrated in Fig. 1, showing cavities **104** organized within blister package **100**. In this embodiment, blister package **100** comprises rows **106** configured having space **116** between rows **106**. In one embodiment, domes **108** from a first blister package can fit in space **116** between rows **106** of a second blister package and shelves **110** of the first blister package can abut shelves **110** of the second blister package.

[0040] FIG. 5 is a top view of blister package **100** illustrated in Fig. 1, illustrating lid **114** sealing of blister package **100**. Lid **114** can be bonded or sealed so that lid **114** adheres to flat surfaces of blistered base sheet **102**. One portion of blistered base sheet where lid ~~144~~ 114 can adhere is space **116** between cavities **104** and over each cavity opening. This adherence of lid **114** to blistered base sheet **102** can close blister package **100** and encapsulate one or more cartridges within cavities **104**. In one embodiment, lid **114** can be a single sheet that covers the entire blistered base sheet **102** and bonds with the blistered base sheet in the areas surrounding cavities **104**.

CLAIMS:

1. A blister package comprising a blistered base sheet comprising one or more cavities having a void~~, a dome structure, a shelf and~~ configured to house a cartridge containing a pharmaceutical formulation comprising a diketopiperazine and an active ingredient~~;~~ and configured to have a pre-dosing configuration and a dosing configuration, wherein the void includes a dome structure configured to accommodate a container and a shelf configured to accommodate a cartridge lid or top;

a lid bonded to said blister package;

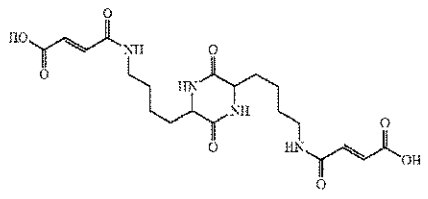
wherein the one or more cavities have an exterior surface and interior surface, and wherein the shelf includes an indentation in the exterior surface~~.~~ that is configured with the dome structure to hold the cartridge in the pre-dosing configuration and not allow the cartridge to attain the dosing configuration .

2. The blister package of claim 1, wherein the indentation is a cartridge top retaining feature in the interior surface of the cavities.

3. The blister package of claim 1, wherein the shelf extends from the dome structure and forms a substantially flat end of the one or more cavities and said indentation which forms a cartridge retaining feature in the interior surface of the one or more cavities.

4. The blister package of claim 1, wherein the cartridge ~~comprising a container and a~~ lid or top ~~that~~ extends over the container.

5. The blister package of claim 1, wherein the diketopiperazine has a formula



.

6. The blister package of claim 1, wherein the active ingredient is a peptide, protein, a small molecule or a nucleic acid.

7. The blister package of claim 1, wherein the active ingredient is selected from the group consisting of insulin, glucagon like peptide 1, glucagon, oxytocin, oxyntomodulin, peptide YY, sumatriptan, a peptidyl peptidase IV inhibitor, parathyroid hormone, deoxyribonuclease I and active fragments or analogs thereof.

8. The blister package of claim 7 wherein the active ingredient is at least one of insulin, glucagon like peptide 1, glucagon, and a peptidyl peptidase IV inhibitor.