

---

## Product Data Sheet

---

Product Name: Mag-Indo-1 tetrapotassium salt

Cat. No.: GC67220

### Chemical Properties

Cas. No. 132299-21-9

Formula  $C_{21}H_{14}K_4N_2O_9$

M.Wt

594.74

Solubility

Storage

Store at -20°C

General tips

For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

### Background

Mag-Indo-1 tetrapotassium salt is a cell impermeable fluorescent probe for  $Mg^{2+}$  detection<sup>[1]</sup>.

Mag-Indo-1 tetrapotassium salt can be used to determine the free  $Mg^{2+}$  concentration in the cytoplasmic solutions<sup>[1]</sup>.

Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs)<sup>[1]</sup>.

1. Calibrating solutions containing various concentrations of  $Mg^{2+}$  are prepared by mixing different ratios of the two stock solutions: one contains (mM) 150 KCl, 0.1 EGTA and 5 Hepes (pH 7.2 with KOH), and the other contains 100  $MgCl_2$ , 0.1 EGTA and 5 Hepes (pH 7.2 with KOH).
2. The calibration curve is constructed using calibrating solutions containing 1  $\mu M$  Mag-Indo-1 tetrapotassium salt.
3. The ' $Mg^{2+}$ ' calibrating solution contained (mM): 130 KCl, 4 EDTA and 5 Hepes (pH 7.2 with KOH).
4. The relationship between the background-corrected value of the fluorescence ratio (R)

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

---

## Product Data Sheet

---

and the  $Mg^{2+}$  concentration is fitted with the following theoretical equation.

$[Mg] = K (R - R_{min}) / (R_{max} - R)$ , where  $[Mg]$  is the concentration of free  $Mg^{2+}$  ion,  $R_{min}$  is the R value at 0  $[Mg^{2+}]$ , and  $R_{max}$  is the R value at saturating  $Mg^{2+}$ . The curve fitting gave  $R_{min} = 0.053$ ,  $R_{max} = 1.57$ , and  $K = 5.1$  mM.

**Note:** the specific curve can refer to the reference.

[1]. Ding-Hong Yan, et al. Two Kir2.1 channel populations with different sensitivities to  $Mg^{2+}$  and polyamine block: a model for the cardiac strong inward rectifier  $K^{+}$  channel. J Physiol. 2005 Mar 15;563(Pt 3):725-44.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA