

## **Supporting Information**

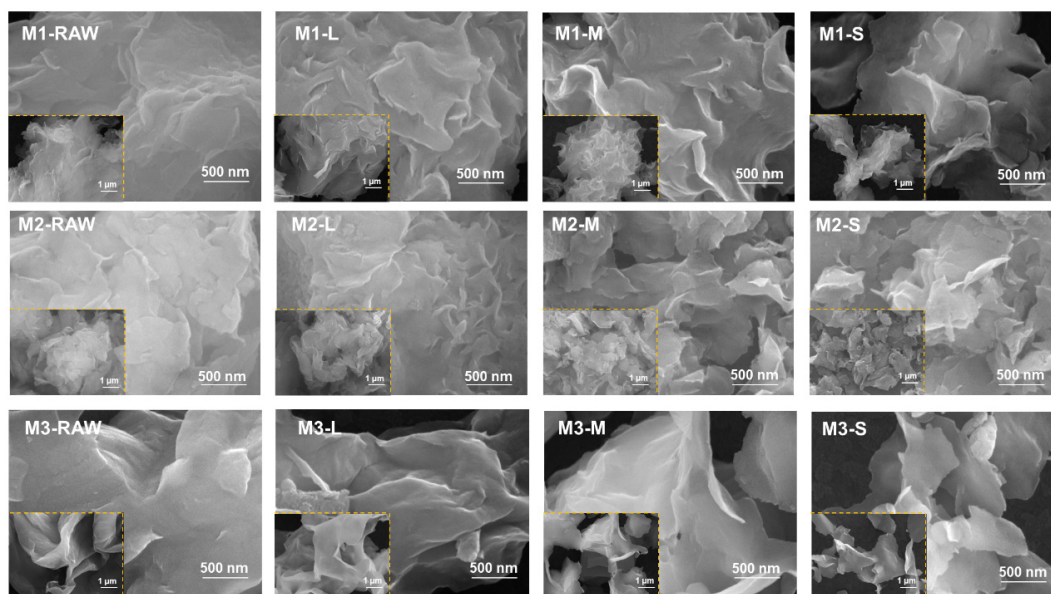
### **Toxicological evaluation toward refined montmorillonite with human colon associated cells and human skin associated cells**

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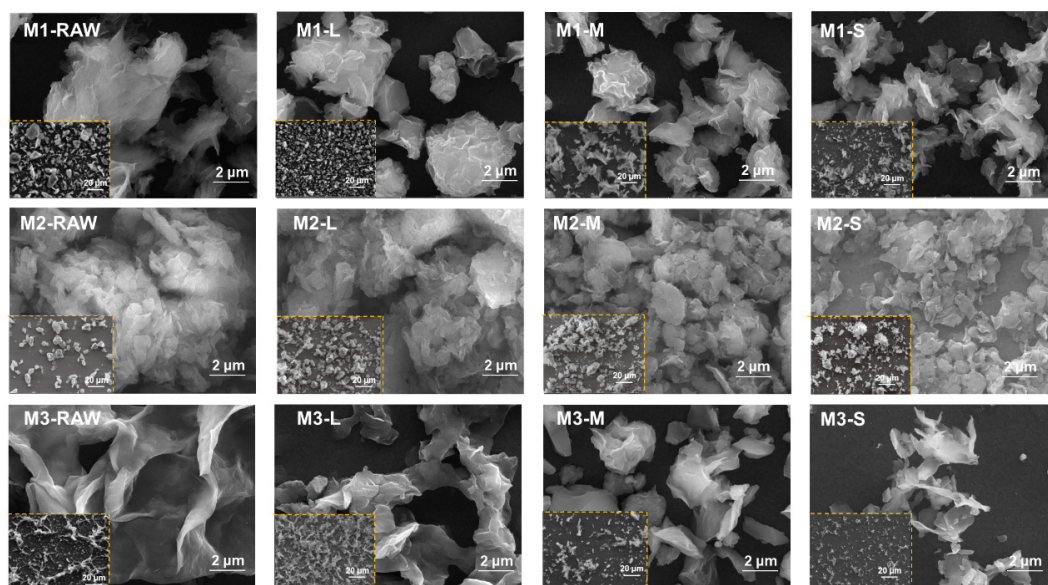
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**Figure S1** SEM toward refined montmorillonite with 50k $\times$  and 100k $\times$  magnification.



**Figure S2** SEM toward refined montmorillonite with 2k× and 20k× magnification.

**Table S1** XRD data toward M1

Mineral	Chemical Formula	JCPDS Card No.	2 $\theta$	h k l
Ca-montmorillonite	$\text{Ca}_{0.2}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2$	00-058-2007	5.84	001
Ca-montmorillonite	$\text{Ca}_{0.2}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2$	00-058-2007	19.79	100
Ca-montmorillonite	$\text{Ca}_{0.2}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2$	00-058-2007	35.17	110
Ca-montmorillonite	$\text{Ca}_{0.2}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2$	00-058-2007	53.98	210
Ca-montmorillonite	$\text{Ca}_{0.2}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2$	00-058-2007	61.88	300
Cristobalite	$\text{SiO}_2$	00-039-1425	21.86	101
Quartz low	$\text{SiO}_2$	01-070-2537	22.75	101
Albite	$\text{Na}(\text{Si}_3\text{Al})\text{O}_8$	00-010-0393	27.97	011
Illite-1M	$\text{K}_{0.7}\text{Al}_2(\text{Si,Al})_4\text{O}_{10}(\text{OH})_2$	00-029-1496	73.02	117

**Table S2** XRD data toward M2

Mineral	Chemical Formula	JCPDS Card No.	2 $\theta$	h k l
Ca-montmorillonite	Ca <sub>0.2</sub> (Al,Mg) <sub>2</sub> Si <sub>4</sub> O <sub>10</sub> (OH) <sub>2</sub>	00-058-2007	5.89	001
Ca-montmorillonite	Ca <sub>0.2</sub> (Al,Mg) <sub>2</sub> Si <sub>4</sub> O <sub>10</sub> (OH) <sub>2</sub>	00-058-2007	19.79	100
Ca-montmorillonite	Ca <sub>0.2</sub> (Al,Mg) <sub>2</sub> Si <sub>4</sub> O <sub>10</sub> (OH) <sub>2</sub>	00-058-2007	35.08	110
Ca-montmorillonite	Ca <sub>0.2</sub> (Al,Mg) <sub>2</sub> Si <sub>4</sub> O <sub>10</sub> (OH) <sub>2</sub>	00-058-2007	53.95	210
Ca-montmorillonite	Ca <sub>0.2</sub> (Al,Mg) <sub>2</sub> Si <sub>4</sub> O <sub>10</sub> (OH) <sub>2</sub>	00-058-2007	62.09	300
Brucite	Mg(OH) <sub>2</sub>	00-007-02339	18.61	001
Brucite	Mg(OH) <sub>2</sub>	00-007-02339	38.00	101
Brucite	Mg(OH) <sub>2</sub>	00-007-02339	50.82	102
Brucite	Mg(OH) <sub>2</sub>	00-007-02339	58.66	110
Brucite	Mg(OH) <sub>2</sub>	00-007-02339	68.35	103
Cristobalite	SiO <sub>2</sub>	00-039-1425	21.97	101
Quartz	SiO <sub>2</sub>	00-033-1161	26.68	101
Calcite	CaCO <sub>3</sub>	00-047-1743	29.51	104
Illite-1M	K <sub>0.7</sub> Al <sub>2</sub> (Si,Al) <sub>4</sub> O <sub>10</sub> (OH) <sub>2</sub>	00-029-1496	73.02	117

**Table S3** XRD data toward M3

Mineral	Chemical Formula	JCPDS Card No.	2 $\theta$	h k l
Na-montmorillonite	$\text{Na}_{0.3}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2 \cdot 4\text{H}_2\text{O}$	00-029-1498	6.45	001
Na-montmorillonite	$\text{Na}_{0.3}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2 \cdot 4\text{H}_2\text{O}$	00-029-1498	19.86	100
Na-montmorillonite	$\text{Na}_{0.3}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2 \cdot 4\text{H}_2\text{O}$	00-029-1498	34.85	105
Na-montmorillonite	$\text{Na}_{0.3}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2 \cdot 4\text{H}_2\text{O}$	00-029-1498	54.08	210
Na-montmorillonite	$\text{Na}_{0.3}(\text{Al,Mg})_2\text{Si}_4\text{O}_{10}(\text{OH})_2 \cdot 4\text{H}_2\text{O}$	00-029-1498	62.01	300
Quartz	$\text{SiO}_2$	00-046-1045	26.74	101
Albite	$\text{Na}(\text{Si}_3\text{Al})\text{O}_8$	00-010-0393	28.07	002
Illite-1M	$\text{K}_{0.7}\text{Al}_2(\text{Si,Al})_4\text{O}_{10}(\text{OH})_2$	00-029-1496	73.04	117